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ABSTRACT

This handbook is a guide and reference document for those researching the child data files of the 1986-1990 National Longitudinal Survey of Youth, sponsored by the Bureau of Labor Statistics. It describes the child data collection procedures, the nature of the child sample, the child data files available, and the specifics of the child assessments included in the 1990 survey. Outside resource documents, internal analyses, and data caveats are also provided for each assessment. A variety of statistical materials are provided to help users decide whether data are appropriate for their research objectives. Section 1 provides an overview of the children in the survey. Section 2 gives technical information on survey design, field work, representativeness of the sample, and the data processing. Section 3 describes the mother and child sample and highlights the strengths and limitations of the data set. Section 4 describes the child data files (available on magnetic tape or CD-ROM), and the behavioral and attitudinal data available on the children and their families. Section 5 focuses on the criteria for selecting the child assessments and then describes the child data collection from 1986 through 1992. Section 6 describes the child data files, their documentation, and the primary components of the main youth documentation, along with suggestions for their access and management. Most sections include statistical tables and lists of supplemental documentation and publications. Appendices with survey instruments and tables of raw scores are included. (TM)

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NLSY CHILD HANDBOOK

- REVISED EDITION -

A Guide to the 1986-1990
National Longitudinal Survey of Youth
Child Data

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1

THE CHILDREN OF THE NLSY: AN OVERVIEW

Development of the NLSY

The National Longitudinal Survey of Youth (NLSY) is an outgrowth of a larger research project initiated in the mid-1960s by the U.S. Department of Labor to analyze the sources of variation in the labor market behavior and experience of four groups in the United States population. The National Longitudinal Surveys of Labor Market Experience (NLS) were originally comprised of four cohorts: men 45 to 59 years of age, women 30 to 44 years of age, and young men and women 14 to 24 years of age. In 1979, the NLS Youth was launched to permit replication of much of the analyses based on the earlier cohorts and to help evaluate expanded employment and training programs for young people in the late 1970s. This fifth cohort consisted of a national sample of civilian and military young men and young women between the ages of 14 and 21 in 1979, with overrepresentation of blacks, Hispanics, and economically disadvantaged whites.

The primary funding for the NLSY survey over the years has been provided by the U.S. Department of Labor. At present, the survey is largely sponsored by the Bureau of Labor Statistics of the Department of Labor. Significant support for this survey in the past also has come from the Department of Defense, National Institute of Education, the National Institute on Alcohol Abuse and Alcoholism, and the National Institute on Drug Abuse. In 1982, the National Institute of Child Health and Human Development (NICHD) provided funds for the introduction of a comprehensive set of fertility and child care questions into the NLSY. These components have been included each year through 1986 and again in 1988, 1990 and 1992. Finally, with NICHD funding, a battery of cognitive and socio-emotional assessment instruments has been administered to children of female NLSY respondents biennially since 1986.

The NLS Youth Sample

The original NLSY sampling design has enabled researchers to study in detail the longitudinal experiences of not only a particular age group of young Americans, but to analyze the disparate life course experiences of such groups as women, Hispanics, blacks, and the economically disadvantaged. The NLSY was originally comprised of three subsamples: (1) a cross-sectional sample of 6,111 youth designed to be representative of the noninstitutionalized civilian segment of American young people who were ages 14-21 as of January 1, 1979; (2) a supplemental sample of 5,295 youth designed to oversample civilian Hispanic, black, and economically disadvantaged white youth; and (3) a sample of 1,280 youth designed to represent the population aged 17-21 as of January 1, 1979 who were enlisted in the four branches of the military as of September 30, 1978.

NLSY respondents have to date been interviewed annually from 1979-1993. Respondents belonging to the military sample were the subject of yearly interviews from 1979-1984; post-1984 surveys retained for continued interviewing 201 respondents randomly selected from the entire military sample. Beginning with the 1991 survey, economically disadvantaged white respondents from the supplemental sample were no longer interviewed. Table 1.1 includes the number of sample cases completed in selected years between 1979 and 1991.

The original interview schedule, which called for yearly personal interviews, was maintained from 1979 through 1986. In 1987, budget constraints dictated a limited phone interview rather than a personal interview. Personal interviews resumed with the 1988 round and are expected to continue. Table 1.2 below summarizes the years in which the NLSY sample has been surveyed and the type of interview conducted.

The initial 1979 NLSY interviews were conducted between late January and mid-August 1979. The vast majority of subsequent interviews have occurred during the months of February through May. However, the fielding period for the 1987 survey was an extended one lasting from March through October. The 1988, 1989 and 1990 surveys were conducted from June through December. The 1991 interviews were fielded between late June and mid-November; 1992 interviewing began in late May and concluded in late 1992.

Response rates for those NLSY respondents remaining eligible for interview have remained at or above 90% during the first twelve years of interviews. At the time of the 1991 survey, 9,018 civilian and military respondents of the 9,964 eligible were interviewed for an overall retention rate of 91% (see Table 1.2).

The NLSY Data

Surveys of the NLSY have contained core sets of questions on the following topics: (1) marital history; (2) schooling; (3) current labor force status; (4) jobs and employer information; (5) gaps in employment; (6) training; (7) work experience and attitudes; (8) military service; (9) health limitations; (10) fertility; (11) income and assets; (12) household composition; and (13) geographic residence. While information on those topical areas has been collected during each survey year, the number of questions on any given topic as well as the wording and universes for each question may differ from year to year. The data items linked to the children of the NLSY families are described in greater detail in Section 4.

Additional sets of questions on other factors potentially affecting a young person's labor force attachment have been included during select survey years. The initial survey year collected information on family background, knowledge of the world of work, a retrospective evaluation of labor market experience, the influence of significant others, and an abbreviated Rotter locus of control scale. Subsequent surveys have included questions on job search methods, migration, attitudes towards work, educational and occupational aspirations and expectations, school discipline, self-esteem and depression, child care, pre- and post-natal health behaviors, drug and alcohol use, delinquency, time use, AIDS knowledge, and childhood residences.

The Center for Human Resource Research (CHRR) also creates certain variables which are frequently used by researchers and/or difficult to construct. These created variables include various employment, education, income, geographic and interview-specific variables such as: (1) total net family income; (2) family poverty status; (3) highest grade completed; (4) marital status; (5) employment status recode; (6) region of current residence; (7) school enrollment status; (8) whether current residence is urban/rural; and (9) whether current residence is in an SMSA. Derivations for certain of these variables are provided within the attachments and appendices of the NLS main Youth documentation set.

Finally, NLSY respondents have been the subject of a number of special surveys, the High School and Transcript Surveys conducted by the National Center for Research in Vocational Education, the Profile of American Youth - *ASVAB* administration sponsored by the U.S. Department of Defense, and, of course, the NICHD-sponsored battery of cognitive, socioemotional, and physiological assessments administered to the children of female NLSY respondents during the 1986, 1988, 1990 and 1992 fieldings.

The Children of the NLSY Mothers

The 1986, 1988, 1990 and 1992 waves of the NLS Youth included the administration of an extensive set of assessment instruments to the children of the female respondents. These assessments encompass cognitive, socio-emotional, and physiological aspects of the child's development as well as information about the quality of the home environment. The assessments were completed by 4,971 children in 1986, or about 95 percent of eligible children whose mothers were interviewed in 1986. Parallel information is available for 6,266 children in 1988, and for 5,803 in 1990. The reader is reminded that as of 1990, these children fully represent a cross-section of children who have been born to a nationally representative sample of women who were 25 to 32 years of age as of January 1, 1990. These women, of course, have not completed their childbearing. The children approximately typify the first two-thirds of childbearing for a recent cohort of American women. Excluded, of course, are children born to older women who would be disproportionately well educated and otherwise above average with respect to their socio-economic status. For a very large sample of children, assessment information can be linked over time with a vast array of child, maternal, and family background information. Users have the opportunity to lay out the antecedents and outcomes of behaviors, to generalize findings to various population subgroups while controlling for the effects of many key variables, and to compare findings from small sample investigations to parallel studies from the large national survey.

All of the NLSY data can be used in conjunction with the child assessment materials. Some of the items have been directly converted from being respondent or mother-linked data items to being child-linked data items (e.g., many maternal work history data items have been translated into maternal employment items referencing the birth date of a specific child born to that woman). Other items can be readily converted from being respondent-specific to being child-specific using the software available on the NLSY Child CD-ROM (e.g., mother's education as of a particular survey point). Some items require more complex manipulations. These procedures are discussed further in Sections 4 and 5 of this handbook.

The data from the child assessments and from the yearly Youth surveys have been combined into a data set called the NLSY Child Data. The file, in which all the children of the NLSY mothers are the actual respondents, includes a variety of constructed normed and raw scores for the various assessments, the actual item responses from the assessments, and information about the social, economic, and family characteristics of the childrens' mothers and families. At present, the NLSY Child Data, updated for a total of more than 8,500 children, are available in two forms: (1) a set of files on magnetic tape containing all assessment information through 1990, child-specific information on family background, pre- and postnatal health, and retrospective child care as well as more than 1500 variables drawn from the mother's main file record; and (2) a compact disc (CD-ROM) that includes all the child assessment information and other above mentioned child-specific information and allows access to the entire longitudinal record of all NLSY females, any item of which can be merged with the child record. The Child Data files are accompanied by extensive documentation including a codebook of frequencies, numeric indices of variables, a Child Assessment Data Users Guide, and original field instruments. These data files and their documentation are described in detail in this Handbook.

Purpose of the Child Handbook

This Handbook is intended both for experienced NLSY users who need specific information about the Child Data file as well as for first time users who wish to access the NLSY Child Data. This latter group is encouraged to carefully examine appropriate sections of the current *NLS Handbook* and *NLS Users Guide* concomitant with their utilization of this Handbook. While this volume briefly describes the entire NLSY data set, its primary purpose is to explain and document the Child Data files and, in particular, the child assessment data.

In producing this Handbook, the authors have tried to remain cognizant of two issues. First, the Child Data files represent an initiation to the NLSY for many users who, in some instances, have not previously used large data files. Second, many users may prefer to read or refer back to only certain parts of the Handbook. For these reasons, we have tried to assume as little prior knowledge about the data set as possible; readers who read several sections may note some intentionally redundant material. To avoid excessive repetition, the Handbook often makes reference to related materials located in other sections of this Handbook or in other NLS documentation.

The Child Handbook has several objectives. First, it describes the child data collection procedures, emphasizing the continuing close linkages between NORC, which collects the data, the Center for Human Resource Research, which prepares the public use materials, the U.S. Bureau of Labor Statistics of the U.S. Department of Labor, which maintains overall responsibility for the entire NLS and serves as primary funder of the NLSY, and NICHD, which not only has funded this data collection, but also has provided major input into all aspects of the process. The Handbook describes, in some detail the nature of the child sample, the child data files available, and the specifics of the child assessments included in the 1990 survey round. Any researcher planning to use these data is strongly encouraged to read Section 3 on sampling issues and constraints. The description of each assessment is accompanied by an explanation of how to access a particular assessment. A discussion of particular data caveats is followed by information on available outside resource documents as well as limited internal analyses that highlight the strengths and limitations of each assessment. This volume includes a variety of statistical materials that should help prospective users make decisions about whether these data are appropriate for meeting their research objectives. Researchers who plan to use the 1986 or 1988 child assessment materials extensively should consider examining Baker and Mott (1989) and Mott and Quinlan (1991a) for greater detail about the 1986 and 1988 child assessment data respectively.

In summary, the Child Handbook serves as an essential manual and reference document for anyone who plans to use the NLSY Child Data. The authors strongly suggest that this Handbook be used in conjunction with a variety of other materials including the *NLS Handbook*, the most recent *Child Assessment Data Users Guide*, the *NLS Users Guide*, the interview schedules used in the field for children and mothers, and the NLS Youth public user documentation. These items, described in greater detail in Section 6, complement each other and, in total, represent the appropriate and essential package of materials for researchers planning to use these data.

Organization of the Handbook

This Handbook is organized into the following major sections:

Section 2 provides technical information on survey design, field work, sample representativeness, and the data processing and cleaning procedures used in creating the NLSY Child Data.

Section 3 describes the NLSY mother and child samples, highlighting the strengths and limitations of the data set.

Section 4 briefly describes the child data files and the variety of behavioral and attitudinal data available on the children and their families.

Section 5 focuses on the nature and quality of the 1990 child assessment variables and briefly describes the 1986 through 1992 child data collection.

Section 6 describes the NLSY Child Data files, their documentation, and the primary components of the NLS main Youth documentation. The major characteristics of the data files are described and suggestions for their access and management are outlined. Details on hardware requirements and data format are provided. The section concludes with a list of the various supplemental documentation and publications available to users and other persons interested in exploring the applicability of the data.

Each of the remaining Sections of the Handbook contains a number of tables that have been placed at the conclusion of the text portion of each section. An effort has been made to include a listing of useful references with each topic discussed in the various sections of the Handbook. The following citations are provided for users interested in other overviews of the NLS Youth and the NLSY Child.

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Table 1.1 Distribution of NLSY Respondents by Sample Type, Race, and Sex: 1979, 1984, 1990, and 1991 Interviews

	1979	1984	1990	1991
Cross-Sectional Sample	**6111**	**5814**	**5498**	**5556**
Males	3003	2839	2664	2694
White	2439	2303	2157	2184
Black	346	329	318	315
Hispanic	218	207	189	195
Females	3108	2975	2834	2862
White	2477	2365	2271	2295
Black	405	393	365	366
Hispanic	226	217	198	201
Supplemental Sample	**5295**	**5040**	**4755**	**3281**
Males	2576	2442	2280	1611
Poor White	742	699	664	---
Black	1105	1055	979	966
Hispanic	729	688	637	645
Females	2719	2598	2475	1670
Poor White	901	851	819	---
Black	1067	1034	984	983
Hispanic	751	713	672	687
Military Sample	**1280**	**1215**	**183**	**181**
Males	824	774	168	166
White	609	575	70	71
Black	162	151	68	64
Hispanic	53	48	30	31
Females	456	441	15	15
White	342	331	7	7
Black	89	86	5	5
Hispanic	25	24	3	3
Total NLSY Sample	**12686**	**12069**	**10436**	**9018**

Table 1.2 NLSY Interview Schedules and Retention Rates[a] by Sample Type

		Cross-Sectional Sample		**Supplemental Sample**		**Military Sample**		**Total Sample**	
	Type of Interview	**Total**	**Retention Rate**	**Total**	**Retention Rate**	**Total**	**Retention Rate**	**Total**	**Retention Rate**
1979	Personal	6111	-----	5295	-----	1280	-----	12686	-----
1980	Personal	5873	96.1	5075	95.9	1193	93.2	12141	95.7
1981	Personal	5892	96.4	5108	96.5	1195	93.4	12195	96.1
1982	Personal	5876	96.2	5036	95.1	1211	94.6	12123	95.6
1983	Personal	5902	96.6	5093	96.2	1226	95.8	12221	96.3
1984	Personal	5814	95.1	5040	95.2	1215	94.9	12069	95.1
1985	Personal	5751	94.1	4957	93.6	186[b]	92.5	10894[c]	93.9
1986	Personal	5633	92.2	4839	91.4	183	91.1	10655	91.8
1987	Telephone	5538	90.6	4768	90.1	179	89.1	10485	90.3
1988	Personal	5513	90.2	4777	90.2	175	87.1	10465	90.2
1989	Personal	5571	91.2	4853	91.7	181	90.0	10605	91.4
1990	Personal	5496	90.0	4755	89.8	183	91.0	10436	89.9
1991	Personal	5556	90.9	3281[d]	89.9	181	90.0	9018[e]	90.5

[a] Retention rate is defined as the percent of base year respondents within each sample type remaining eligible who were interviewed in a given survey year.

[b] A total of 201 military respondents were retained from the original sample of 1,280.

[c] The total number of civilian and military respondents in the NLSY at the initiation of the 1985 survey was 11,607.

[d] Poor white female and male members of the supplemental subsample are not eligible for interview as of the 1991 survey year. Remaining eligible for interview in post-1990 surveys are 3,649 black and Hispanic respondents of the supplemental sample of whom 3,281 were interviewed in 1991.

[e] The total number of civilian and military respondents in the NLSY at the initiation of the 1991 survey year was 9,964.

2

NLSY CHILD SURVEY PROCEDURES

Survey Design

NLSY Child data collection is primarily carried out using personal home interviews. This approach, effective in maintaining long term cooperation with respondent families, is compatible with the interviewing mode used with the children's mothers and results from the fact that several of the child assessments were designed for face-to-face administration. Experienced interviewers receive extensive special training in the administration of a collection of instruments selected for their suitability of use by nonspecialists in child development and adapted for in-home settings.

Instrument Development

The original proposal for the NLSY Child data collection included plans for instruments that tapped several dimensions of child cognition, health, socio-emotional attributes, behavior, and home environment. Development of the first round of NLSY Child Assessment instruments began in the summer of 1985. The Center for Human Resource Research assumes overall responsibility for selection, design, and adaptation of the Child Assessments. Field training and data collection are the primary responsibility of NORC. Close collaboration between NORC and the Center begins prior to each fielding period on such issues as placement and formatting of questions, survey timing, and special data collection considerations such as confidentiality, interviewer training, and testing conditions. On a continuing basis, NICHD also provides input to this process. Advice on question inclusion as well as review of each draft survey instrument is sought by the Center from the various funding agencies, notably the Bureau of Labor Statistics, which has overall authority regarding survey content, NICHD, a technical advisory board, and designers of the original questions and scales. The overall instrument is subject to review by the Federal Office of Management and Budget. The range of professional experts who have been involved in the development and selection of the child data collection instruments are listed in Table 5.1 at the end of Section 5 in this handbook.

Several months prior to the first child data collection effort in 1986, a preliminary group of assessments was selected and compiled into two booklets intended as supplements to the main NLSY questionnaire. The set of measures included questions on health and home environment for all children, age-appropriate cognitive assessments, a self-competence scale for school age children, and instruments designed to measure the temperament and the motor and social development of younger children. Four of the assessments were formatted for mothers to self administer, and the remainder were designed for interviewer administration and observation.

A preliminary pretest of the draft child instruments was conducted in August 1985 at NORC in Chicago. Two experienced NLSY field interviewers were given a copy of the draft instrument to review prior to trying it out with several children, ranging from two to eleven years of age, whose parents were employees at NORC. The mother of a five month old was also recruited to test the Mother Supplement. NORC staff and the Chicago district field manager spent two days observing and video taping these interviewers. To allow for maximum practice for both interviewers, some sessions were conducted simultaneously and not taped, but every interview was observed. Since the selection of reading and math instruments to be utilized had not yet been finalized, no reading assessment was administered and the Test of Mathematical Abilities (TOMA) was used to measure math performance.

Based on the results of these two days, a special Child Assessment training program was developed to be used with five field interviewers chosen for the main NLSY Survey 1986 Pretest. The training of the interviewers during this special pretest phase was conducted by the NORC Chicago district field manager and NORC survey staff.

The Child Pretest

A pretest of the Child survey instruments is usually conducted by NORC several months prior to the beginning of the actual fielding period. NORC uses a national sample of approximately 200 respondents selected for pretesting the main NLSY. Conducted at two sites with experienced NLSY interviewers, the pretest serves to test questionnaire wording, to pinpoint items that may pose problems for the respondents or the interviewers, and to time the various sections of the instruments. This process also serves to identify problems with questions, skip patterns, transitions between sections, questionnaire length, and other overt flaws.

Periodic field observations of the interviewers are made by district field managers and NORC staff. This process was particularly useful in preparing for the initial child data collection in determining the special requirements that child assessment would place on interviewers. As one might expect, not all interviewers were suited to the special requirements of administering assessments to children. The number of new tasks and the need for certain personal attributes and personality traits suggested that the interviewing of children is inappropriate for even some very seasoned interviewers.

The initial pretest revealed some unexpected difficulties posed by this special assessment situation. One mother worried that the interviewer and observer would report her to the authorities for child abuse or neglect because she allowed her infant to cry after the baby had been put down to take a nap. Another mother suggested that her child seemed frightened of the interviewer and observer because of limited prior exposure to people of another race. These incidents led to the development of a comprehensive menu of methods for training interviewers to build rapport with the child, deal with distractions, gain parental cooperation, administer the assessment materials smoothly, decide how much persistence is appropriate to gain the child's cooperation, and gauge respondent burden.

Following each pretest, staff from the Center, NORC personnel, and representatives of the various funding agencies meet to review the NLSY child survey instruments, analyze the response frequencies for selected questions, and discuss problems encountered by both the respondents and interviewers. Subsequent to this debriefing, modifications to the instruments and administrative procedures are made by NORC and the final package forwarded to the Center for Human Resource Research for review.

Data Collection Instruments

Two special survey schedules, the Mother Supplement and the Child Supplement, are the principal instruments used to administer the assessments to the NLSY children and to elicit reports about child health, temperament, and behavior from their mothers. Since their initial application, these instruments have undergone some changes, and in some instances have been deleted. These variations are noted in Table 2.1 and discussed in detail in Section 5. The following is a brief outline of the contents of each data collection instrument and the interviewing aids used in the field. Detailed descriptions of the nature of the child assessment instruments and the criteria used in their selection can be found in Section 5 of this Handbook. Anyone interested in all the data collection instruments used in conducting the NLS Youth main survey should consult the current *NLS Handbook*.

Mother Supplement.

The Mother Supplement is designed to be completed by the mother or guardian for each child prior to or during the administration of the Child Supplement. Interviewers are instructed to quickly accommodate any respondent who indicates a preference for having the supplement administered by the interviewer. The Mother Supplement includes the following four sections:

(1) The HOME Short Form - items from the HOME (Home Observation for Measurement of the Environment) Inventory, developed by Bradley and Caldwell, which contains

age-specific versions of a set of scales designed to measure the nature and quality of the child's home environment.

(2) How My Child Usually Acts/Temperament - items from Rothbart's Infant Behavior Questionnaire, Kagan's Compliance Scale and other items from Campos, which combine to form a set of maternal-report scales measuring temperament or behavioral style over the past two-week period for each child under age seven.

(3) Motor and Social Development - items drawn from Poe, Bayley, Gesell, and the Denver Developmental Screening Test, which measure various milestones in the areas of motor-social-cognitive development for children under age four.

(4) Behavior Problems Index - items from Zill and Peterson's adaptation of the Child Behavior Checklist, developed by Achenbach and Edelbrock, which elicit mother ratings of children four years of age or older in such areas of problem behavior as hyperactivity, anxiety, dependency, depression, and aggressiveness.

(5) School and Family Background - information for children 10 years or older on schooling, grade repetition, school behavior and expectations, peer relations, and religious attendance and training.

Child Supplement.

The Child Supplement is used by the interviewer to collect general and health-related background information from the mother of each child, responses from the children to items from nine additional assessment instruments, interviewer evaluations of the testing conditions, and interviewer observations of the child's home environment. The supplement contains the following sections:

(1) The Child Background section - identifying information (age, gender, grade in school) from the mother of each child. The first page of the supplement refers to child ID's drawn from the Children's Record Form (CRF), an NLS main Youth survey interviewing aid containing information on the biological (Part A) and nonbiological (i. e. , adopted or step-children listed in Part B) children of the respondent. The CRF has been used since

the 1985 surveys to: (1) provide identification numbers, names, dates of birth, sex, deceased/adopted status for each child; and (2) identify special sections of the questionnaire (i.e. , immunization, feeding, etc.) which need to be administered for particular children. A sample Children's Record Form can be found in the NLSY main survey Interviewer's Reference Manuals, a special series in the NLSY documentation (see Section 6 of this Handbook). Information from the Children's Record Forms can be found within two files (CRFBIO and CRFNBIO) on the NLS main Youth tape or in Youth Record Types CRFBIO, CRFNBIO on the Female Youth dataset of the NLSY Child CD-ROM. In 1986, if someone other than the child's mother answered the questions in the first sections of the Child Supplement, interviewers were instructed to record information about this "caretaker" on the concluding page of the supplement. A Caretaker Locating Form was used by interviewers, as they administered the main questionnaire to the mother, to locate biological children who were living outside the mother's household at the time of the 1986 interview. The form listed the child's usual residence distance from mother's household and specific information on the child's current address. While every effort was made to assess these children, the information on the locating form was not data entered. In 1988 through 1992, children living outside their mothers home were not assessed.

(2) The Child Health section - information from the mother on the child's health limitations, accidents and injuries, medical treatment in the last twelve months, health insurance coverage, as well as measures of the child's height and weight at the time of interview.

(3) Parts of the Body - ten items, developed by Kagan, which measure the ability of children aged one or two to identify various parts of their bodies. This assessment was used in 1986 and 1988 but not in subsequent child interview reports.

(4) Memory for Location - developed by Kagan, which measures the ability of children eight months of age through three years to remember the location of an object which is subsequently hidden from view. This assessment was used in 1986 and 1988 but not in subsequent child interview reports.

(5) McCarthy Verbal Memory Scale - a subtest of the McCarthy, (Psychological Corporation), which assesses short-term verbal memory of children aged three through six

years to remember words, sentences, or major concepts from a short story. Part C, the story, was removed from date collection after the 1990 survey.

(6) What I Am Like/SPPC - two scales from Harter's Self Perception Profile for Children, which measure perceived self-competence in the academic skill domain and sense of general self-worth for children aged eight and above.

(7) Memory for Digit Span - a component of the revised Wechsler Intelligence Scales for Children (Psychological Corporation), which assesses the ability of children seven years of age and older to remember and repeat numbers sequentially in forward and reverse order.

(8) The Peabody Individual Achievement Test (PIAT) Math subtest - (American Guidance Service), a wide-range measure of achievement in mathematics for children with a PPVT age[1] of five years or older. The adaptation of the administration form in the Child Supplement is accompanied by the standard PIAT test materials contained in Volume I of the PIAT Easel-Kit.

(9) The PIAT Reading Recognition and Reading Comprehension subtests - (American Guidance Service), which assess the attained reading knowledge of children with a PPVT age of five and older. The item format in the Child Supplement supplanted the standard PIAT record booklet but interviewers used Volumes I and II of the official Easel-Kit which contain the official item plates and instructions for administration.

(10) The PPVT-R (Form L) - (Peabody Picture Vocabulary Test - Revised, American Guidance Service), used to measure the hearing vocabulary knowledge of children whose PPVT age is three and above. As with the PIATs, children were shown the official PPVT item plates and their responses were recorded in the Child Supplement.

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[1] PPVT age is discussed in detail in Section 5

(11) Interviewer Evaluation of Testing Conditions - used to gauge the attitude of the child toward testing, the child's general physical condition, and whether there were any events that interfered with assessment or caused premature termination of the session.

(12) Interviewer Observations of the Home Environment (Caldwell and Bradley) - a subset of all the HOME items selected for administration, these items indicate interviewer perceptions of child-mother interaction and the nature of the child's physical environment. Most HOME items are included as maternal report items in the Mother Supplement.

Child Self-Administered Supplement (CSAS)

First developed for the 1988 interviews, this self report booklet, filled out by children 10 years or older, collects information on a wide range of topics including child-parent interactions, family decision-making, attitudes toward school, extra-curricular activities, child employment, peer relationships and dating activities, religious identification and attendance at religious services, sex education, participation in various delinquent activities, use of cigarettes, alcohol, and other illegal substances, and age at initiation of sexual activity. The contents of the supplement have been gradually expanded since 1988. In 1992, for example, items were added to obtain information on dates of birth and usual residence of any children born to the NLSY children age 13 or older.

Language of Administration.

The following Child assessment instruments have been translated into Spanish:

(1) the entire Mother Supplement

(2) some sections of the Child Supplement

    Section 1 - Child Background (mother report)
    Section 2 - Child Health (mother report)
    Section 3 - Parts of the Body
    Section 4 - Memory for Location
    Section 6 - What I am Like/SPPC
    Section 7 - Memory for Digit Span
    Section 10 - PPVT-R (starting in 1988)

(3) The Child Self-Administered Supplement for children 10 years and older.

A total of 354 children, age eight months or older, were assigned to bilingual interviewers in 1986. Of these cases, slightly more than 100 children were actually assessed in Spanish. According to the 1986 main

NLSY documentation, only 56 mothers were administered the NLS main Youth questionnaire in Spanish. In 1990, 114 main Youth respondents requested that the survey be conducted in Spanish. A total of 100 children were assigned to bilingual interviews in 1988 and 52 in 1990. Of these latter cases, only 17 children were actually assessed in Spanish in 1990.

Interviewer Selection

Prior to each fielding, a staff of trainers for the Child survey is selected from the ranks of NORC divisional field managers and upper level field managers by NORC's Office of Field Communication and Management (OFC&M). Field managers involved in the pretest training, observations and meetings with the OFC&M liaison are included in the selection process. These trainers are brought to the Chicago office for a concentrated three-day session to train them or update their techniques for administering the measurements to be included in the Child Study.

NORC attempts, to the fullest extent possible, to use interviewers with prior experience on the NLSY or on comparable surveys. Interviewers with successful experience on previous rounds of the NLSY Child or experienced NLSY interviewers who are deemed to have the ability to work well with children of various ages are given first consideration for the Child Study. When it becomes necessary to hire new interviewers for the project, thought is given to the prospect's ability and desire to work with children. Questions are incorporated into the personal interview with applicants to help determine aptitude in this area. If, during training, it becomes evident that an interviewer might experience difficulty in the field, the interviewer is shifted from the Child portion of the study. Field staff selecting interviewers for the Child Study all attend the Trainers' Training session so they are familiar with what is expected of a Child Interviewer. As with recruitment for any NORC study, hiring for the Child Study is conducted by the Administrative Field Supervisor, the person most familiar with interviewer skills, work habits and personality.

Interviewer Training

Training sessions are typically held at a small number of sites around the country. These personalized small group sessions are geared toward developing child interviewing skills, instructing attendees on the use of the Child study instruments, and reviewing NORC's administrative procedures and policies. Interviewers receive a training kit of home-study materials for review prior to the group sessions.

Each interviewer training session, which lasts two and one-half days, is run by a head trainer and observed by staff from the NORC central office and CHRR. The sessions begin with an overview of the study, general field procedures, and a taped lecture on establishing rapport and maintaining the attention of children of various ages. Detailed instructions on the administration of each assessment follows. Video tapes are used to provide models of the procedures. Pairs of interviewers participate in "mocks," scripted exercises in which the trainees take turns playing the roles of child and test administrator. Group discussion follows each set of mocks so that interviewers have an opportunity to check their administration and scoring procedures and to ask questions. The training session concludes with a set of exercises that are scored by NORC to assess the degree to which the interviewers have mastered the testing procedures. As discussed later in this section, (see Data Quality Control), interviewers are also required to tape and submit their first actual child interviews to the NORC central office for a complete case edit.

Approximately two hundred people are trained as child interviewers for each round of data collection. Some interviewers originally selected as Child interviewers do not make it through the rigors of training, and others self-select out.

Field Procedures

Child Interviewing Field Period

The child interviews are generally conducted simultaneously with the NLS main Youth interviews each survey year. The 1986 child interviews were conducted during the months of February to July while the 1988 and 1990 interviews took place during June to December. While interviewers attempt to interview the mother and her children on the same day, the length of the main interview and the number of children in the household often requires scheduling one or more child cases for separate days. Sometimes a mother has time to complete the Mother Supplement but requests that the assessments contained in the Child Supplement be administered on another day. Such scheduling occasionally means that the Child Supplement assessment date does **not** match the Mother Supplement assessment date. However, a difference in the age of the child at each assessment date rarely occurs. Researchers conducting research on topics where time periods are critical should carefully examine the reference period of variables tied to the mother's interview dates as well as the actual child assessment dates. This issue is considered more extensively in Section 5.

Interview Methods

During each survey round, NORC attempts to reach all respondents within the active samples. No respondents are excluded from locator efforts with the exception of respondents who are known to have died. Thus, the permanent NLSY sample designated for interviewing during the 1986 interview year consists of all civilian respondents who were interviewed in the base year and who were alive at the survey date.

Respondents in the NLSY reside in each of the fifty states, including the District of Columbia as well as countries abroad. Locating respondents is a coordinated effort of NORC's central office, its locating shop, and local level field staff. Prior to fielding a survey round, NORC's central office sends a short, informative "locator letter" to each respondent reminding the respondent of the upcoming interview and confirming the respondent's current address and phone number. Female respondents known to be mothers as of the current interview year are sent a special letter that introduces the Child data collection effort and briefly explains the assessments. In addition to its comprehensive locating efforts, NORC makes every effort to convert initial respondent refusals to completed interviews. A detailed discussion of NORC's locating and conversion methods can be found in the current *NLS Handbook*.

In many cases, mothers and their children are interviewed by the same individual who had interviewed the mother at least once and sometimes several times prior to the current interview. While personal interview is the primary contact method used for the NLSY survey, it is not the exclusive method. Telephone contact occurs under certain circumstances where the respondent resides in a remote area or field staff determines that phone contact is the preferred method of interviewing. During the 1990 personal interviews, 12.6 percent of the main NLSY sample was interviewed by phone. A small number of Mother Supplements and maternal report sections of the Child Supplement are administered by phone, ranging from 1% (69) in 1986 to 3% (186) in 1990.

The average length of the main NLSY interview is approximately one hour. The administration of the child assessments adds about 30 minutes to the total survey time. Each Youth respondent is paid ten dollars upon completion of the main interview. NLSY mothers participating in the child assessments are paid an additional five dollars for each child assessed. Parents generally exhibit a high level of cooperation during the testing of their children. In fact, NORC interviewers often report that several respondents feel that the Child Assessment study maintains their interest in the NLSY survey as a whole. While some parents find it difficult to remain uninvolved in the testing process, most interviewers administer the assessments with no significant interference. Section 5 of this Handbook provides a more detailed discussion of the interviewer's evaluations of testing conditions.

NORC's extensive locating methods, its conversion strategy, and its close monitoring of response rates have resulted in an extraordinarily high retention rate for a longitudinal panel of this duration. Table 1.2 presents NLSY retention rates for the overall sample. Attrition rates for the female sample, mothers and children between 1979 and 1990 are discussed in Section 3, Table 3.1. Completion rates by child race/ethnicity for each assessment are detailed in Section 5 and summarized in Table 3.2.

Data Quality Control

In order to insure quality control during every phase of the field operation, NORC has two primary mechanisms, case editing and validation, to evaluate the performance of the field staff and to maintain the quality of the data while they are being collected.

Case edits by field supervisors occur very early in the data collection round to detect any weaknesses overlooked during training. Each interviewer mails the first two completed cases, accompanied by cassette recordings of the child interviews, to the supervisor and then awaits feedback before proceeding with additional assessments. A 100 percent case edit is conducted on these first cases according to written specifications provided by the project, including criteria for passing and failing the edit. Supervisors contact those interviewers who pass the edit and discuss any errors that were found. Interviewers who fail the edit are notified that, based on the seriousness and extent of the problems, either they need additional instruction, need to shift to another assignment, or will not be retained. Interviewers who fail the edit but who are retained on the NLSY Child Study are required to submit another round of case edits for review before resuming a full caseload.

During the first several weeks of the field period, all field managers are called by a supervisor or a coder from the central coding shop about the quality of the incoming cases. The first calls focus on three types of errors: (1) errors made by a number of interviewers -- these are handled as overview comments; (2) information which needs to be retrieved for a specific interviewer; and (3) any other coding problem a specific interviewer is experiencing. Subsequent calls include interviewer-specific problems to the field manager, district field manager, and central office supervisor. Copies of the overview comments are mailed to the interviewers and to CHRR staff.

Validation, another process for monitoring the performance of interviewers, is used by NORC to: (1) certify that data have been accurately, reliably, and professionally collected; and to (2) confirm that interviewers are completing cases as reported with the correct respondent. NORC conducts call backs on a random sample of about 15 percent of all NLSY cases to verify the date of the interview, the duration of the interview, and the level of accuracy with which selected information is obtained and recorded. Female respondents with at least one biological child are asked about the number, age, and residence of their children, whether the children were assessed and approximately how much time the interviewer spent with each child. The respondent is also given an opportunity to offer comments or criticism about her children's participation in the data collection effort. Once the case validation is completed, NORC's staff assesses the results of the call to determine whether any problem or irregularity appeared.

Data Processing

As child cases arrive at the NORC central office, they are directed through a controlled pattern of data reduction steps designed to produce clean machine-readable data. Processing begins with confirmation that all required child instruments and administrative forms are included with the case and that each item contains matching case identification numbers. All documents for each case are placed in a labeled file jacket and batched for routing to the coding department. Those cases randomly selected for validation are specially marked for priority handling. The following steps are conducted for each case: coding, keying, cleaning, hardcopy storage in the NLSY Library, and finally the creation of a machine-readable datafile.

Coding and Editing

To prepare each questionnaire for data entry, a specially trained team of coders examines all case documents and applies a series of editing conventions, developed in conjunction with CHRR personnel. Since the Mother Supplement and the Child Self-Administered Supplement are self-report documents, there are sometimes inadvertent multiple answers to questions that require mutually exclusive responses. If, for example, a mother marks two adjacent codes on scaled items or places a mark equidistant between two codes, coders choose a response by flipping a coin. If a mark appears on a line between codes, coders circle the one nearest to the mark. All questions with multiple responses are logged with the CASEID, the location of the question, and a brief description of the responses. This information is later transferred to CHRR with the hard copy child instruments.

Through 1988, a group of four coders was given special training in the scoring of the story section (Part C) of the McCarthy Verbal Memory subtest in the Child Supplement. Using the circled concepts and added notations made by interviewers on the "idea sheet" inserted into the section, they scored the story, according to the McCarthy Manual, with the codes provided in the Child Supplement. While the Child Supplements from 1986 and 1988 were originally printed with space for interviewers to enter the total Part C score, they were instructed to ignore this question and leave all scoring of the story to the central coding staff.

During the case edit, coders also flag any missing or inconsistent data on critical items that are observed in the supplements. A description of the retrieval errors and the corresponding hardcopy questionnaire are forwarded to NORC's retrieval shop for further processing.

Data Retrieval

The need for retrievals on critical items in the Child data is quite low. Obviously children cannot be recontacted to retrieve missing assessment responses and mothers cannot be expected to supply information on isolated missing assessment items via telephone. NORC focuses their retrieval efforts on missing or inconsistent child age and date of birth data, most of which they are able to resolve using in-house sources of information.

Data Entry

All information filled in by the interviewer is data entered exactly as it is found in the Child instruments. Ten percent of the cases are 100 percent verified, that is, data are double- entered, compared, and checked against hard copy when discrepancies are found. A special program is run against entered data to: (1) make valid value and range checks, (2) perform logic checks or simple arithmetic checks, (3) flag important missing items, and (4) avoid entry of skipped fields. These data quality checks help to prevent the entry of invalid values and to identify earlier errors made by interviewers and/or coders. Once the data are received from NORC, CHRR subjects several key items to a complex series of consistency checks and edits.

Table 2.1 List of NLSY Child Data Collection Instruments

Child Supplement + Q X Q's - interviewer-administered booklet completed for each child. The CS is used to collect general and health-related background information from the mother of each child; interviewer evaluations of the testing conditions and observations of the child's home environment, and responses from the child to questionnaire items from the following assessments: (1) Body Parts (1986, 1988), (2) Memory for Location (1986, 1988), (3) Verbal Memory, (4) SPPC/What I am Like, (5) Digit Span, (6) PIAT Math and Reading, and (7) the PPVT. The CS QxQ's are annotated copies of the Child Supplement designed to provide interviewers with detailed administration instructions and definitions of certain items.

Infant Supplement - 1986 - abbreviated form of the Child Supplement designed for use in households with children under 8 months of age.

Mother Supplement + Q X Q's - self-report booklet completed by the mother or guardian of each child. The MS contains questionnaire items for the following assessments: (1) the HOME-SF, (2) How My Child Usually Acts/Temperament, (3) Motor and Social Development, (4) the Behavior Problems Index, and, starting in 1988, (5) School and Family Background for children 10 years or older. The MS QxQ's are annotated copies of the Mother Supplement designed to provide interviewers with detailed administration instructions and definitions of certain items.

Mother of Infant Supplement - 1986 - abbreviated form of the Mother Supplement designed for use in households with children under 8 months of age.

Caretaker Locating Form - 1986, 1988 - used by interviewers as they administered the main NLS Youth questionnaire to locate children living outside the mother's household. The form lists the distance of the child's usual residence from the mother's household and specific information on the child's current address.

Caretaker Household Interview - 1986, 1988 - administered to caretaker of children not living in the household of the mother respondent. Includes information about the composition, education, and employment status of the caretaker household as well as locating information potentially useful for future contact with the child. This information has not been data entered.

Child Self-Administered Supplement (CSAS) - 1988, 1990 - self report booklet for children 10 years or older containing items on interactions with parents, responsibilities in the home, time use after school, religion, peer relationships, dating, sexual activity, sex education, attitudes, and absence from parents.

Confidential Child Self-Administered Supplement (CSAS) Card - administered at the end of CSAS for children 13 years or older. In 1988 and 1990 it contained a single question about date and age of onset of sexual activity. In 1992, items were added on dates of any live births.

Child Showcard A - 1986, 1988 - picture of child used in administering Body Parts assessment.

Child Showcard Set B - cards, containing statements from What I Am Like section of the Child Supplement, designed for child's reference as Interviewer reads items.

Childrens Record Form (CRF) - from main NLS YOUTH - includes for each child of main Youth Respondent, child's name, identification number, date of birth, child sex, deceased/adopted status, indication whether special sections of the main questionnaire need to be administered.

Child Face Sheet - 1988, 1990 - Interviewer information sheet containing child ID, name, mother's sample type (1990), Child Supplement interview date, child date of birth, child's age at date of Child Supplement, PPVT age, school grade, whether child has had menses, interviewer ID, and a grid indicating which assessments should be administered.

3

NLSY MOTHER AND CHILD SAMPLES

This section of the Handbook describes the sample of NLSY mothers and their children. Particular emphasis is given to sampling constraints imposed by respondent characteristics and attrition. The development of child sampling weights and their application are also discussed.

The Sample and Sampling Constraints

In the 1990 NLSY Child data files, each respondent or sample case is a child who had been born by 1990 to one of the original NLSY female respondents. The sample, when weighted, represents a cross-section of children born to a nationally representative sample of women who were between the ages of 25 and 32 on January 1, 1990. The children in the sample typify approximately the first two-thirds of childbearing to a contemporary cohort of American women and should not be thought of as representative of all American children. The original NLSY sample included 6,283 women in 1979. This includes 456 women who were in the military at that time, almost all of whom were dropped from the sample following the 1984 survey round. Additionally, following the 1990 survey round, the original economically disadvantaged ("poor") white oversample, which included 901 women, was also dropped because of financial constraints. In anticipation of this deletion and reflecting N.I.H. budget constraints, children born to these economically disadvantaged white women were not assessed in 1990. Deleting almost all the military women and the poor white women left a sample of 4,941 women eligible to be interviewed. Of these women, 4,510 or about 91 percent of those eligible, were interviewed in 1990. About 68 percent (3,088) were mothers (see Table 3.1).

As of the 1990 survey, 8,513 children have been identified as born to the original sample of 6,283 NLSY women. Obviously, an additional unknown number of children have been born to women who are no longer being interviewed following their attrition from the main Youth sample. However, 858 children are known to have been born to women who left the sample before 1990 and an additional 1,254 children have been born to poor white women. This leaves 6,427 children as actually having been born to women who were interviewed in 1990; 5,949 of these children were living in the homes of their mothers and at least some assessment information (e.g., child health) was collected for 5,803 children. Of these interviewed children, a HOME score (the one assessment relevant to all age groups) is available for 5,359--about 90 percent of those living with their mother.

Child Response and Completion Rates, 1990

The child assessment response rate differs slightly between white, black and Hispanic children in the sample. The child sampling weight adjusts for overall assessment nonresponse. The sampling weight essentially adjusts upward the number of children who were assessed to the total number of children estimated to have been born to the original sample of 5,828 civilian women and redistributes the children (by race/ethnicity and social class) such that the sample of children properly represents children born to a representative sample of women twenty-five to thirty-two years of age on January 1, 1990.

The sampling weight does not adjust for selective assessment non-completion. This modest assessment attrition is described in detail in Table 3.2, which shows the proportion of children available and eligible to take each assessment who actually completed and could be scored on the assessment. For example, it may be noted that, overall, 1,328 children under the age of three were available (i.e., actually identified as having been born to a woman who was interviewed in 1990) for a HOME assessment, and 1,181, or 88.9 percent, have a valid score on this assessment. This completion rate varies across assessments and by race/ethnicity of the child. Because the sampling weight does not adjust for differential attrition, it is possible that population estimates of numbers or distributions of children completing a particular assessment could be slightly inaccurate.

Whom Do the NLSY Mothers and Children Represent?

As previously emphasized, the NLSY sample includes (when weighted) a representative sample of American mothers twenty-five to thirty-two years of age on January 1, 1990. The children of these women are representative of American children who have been born to such a sample of women. Thus, as will be demonstrated, the sample includes an over-representation of children born to relatively younger mothers, less educated and disadvantaged mothers, and minority mothers. While the younger children in the sample will have been born to a fairly heterogeneous socio-economic group of women, the older children are more likely to have been born to younger mothers. This particular sample constraint was highly significant in 1986, when we began assessing the children. At that time, a substantial proportion of the children had been born to younger mothers. However, by 1990, the magnitude of this sample censoring has been greatly reduced, as the mothers continue to age and their children increasingly have a more heterogeneous profile.

Children Assessed in 1990

Table 3.3 provides information on the children who were assessed in 1990. As can be seen, there are very large numbers of children at all ages below twelve, and sufficiently large numbers to permit some analyses at ages twelve through fifteen. From an analytical perspective, it is important to note that all children age 14 and over and the large majority of children age eleven and over were born to teenage mothers. This older sample of children can readily be used for a variety of analyses focusing on the consequences of early childbearing, but they should be used cautiously in any analyses generalizing to a broader cross-section of mothers and children. Table 3.4 suggests one other caveat for studies focusing on the consequences of adolescent childbearing. A large proportion of all adolescent births to NLSY women occurred prior to the first (1979) survey round. If the essential explanatory inputs for one's analysis include pre-1979 points (e.g., employment status in 1977 or early paternal presence in the home), one's sample size may be temporally constrained because of a left censoring problem--the unavailability of some data elements for the pre-survey period. Having noted these constraints, it is emphasized that the sample does include a significant number of adolescent births that have occurred since 1979. Furthermore, the number of adolescent children born to a heterogeneous sample of mothers is increasing substantially with each additional survey round. As of 1990, about 380 of the 1290 adolescents have been born to mothers age 20 and over.

Table 3.5 further clarifies one implication of this sample selection issue. The younger children in the sample are substantially more likely to be white, to have been born to older mothers and, even after controlling for race/ethnicity, to have more educated mothers (not reported in table). These characteristics suggest that researchers should be extremely careful to control as much as possible for all factors known to be linked with child age in this sample, if one's analysis is comparing child outcomes across child ages--even if using standardized scores for a single assessment.

Children of Mothers Interviewed in 1990

Tables 3.6 and 3.7 provide summary statistics regarding the extent to which any sample biases remain due to the fact that the NLSY mothers and children as of 1990 do not fully typify, in a socio-economic sense, all the women and children in this birth cohort. It may be seen from Table 3.6 that there is a pronounced pattern of mothers who have lower levels of education and older children. Over half of mothers of children age 12 and over have not completed high school compared with lesser percentages for mothers of younger children. Indeed, only 18 percent of mothers of infants in the sample are high school dropouts.

Table 3.7 puts these patterns of age at birth in an even broader perspective--this time more directly from the women's viewpoint. First, women who had children at the youngest ages are much more likely to not have completed high school by 1990 compared with women who had their first child at increasingly older ages. Second, about 18 percent of the approximately 69 percent of the women's sample who have had children have not completed high school compared with 4.4 percent of the 31 percent of the sample who have not yet had a child. Thus, when comparing child characteristics or outcomes (1) between older and younger children and (2) between mothers and non-mothers, one must carefully take into account the substantial differences between the women and mothers in these different situations. Additionally, as both tables 3.6 and 3.7 indicate, there are substantial sample sizes of children and mothers in these different socio-economic and demographic statuses for carrying out comparative in-depth analyses.

Child Sibling Information and Multiple Child Households

Because child assessment information is collected for all children born to female respondents, the NLSY Child data set offers unique opportunities for comparing development profiles for all of the children born to mothers and for evaluating in part how these profiles may differ due to different within-family experiences. As of 1990, there is available a large sample of mothers who have borne several children. As may be seen in Table 3.8, there are 1,137 interviewed mothers with two children eligible to be assessed and 848 mothers with three or more children. There are large samples of black, Hispanic and other white multiple child households and, as of 1990, the age dispersion of the siblings is considerable. Since the NLSY sample includes a large number of sisters, the child data can be used not only for sibling comparison analyses, but also for cousin comparisons (i.e., comparing characteristics of children born to sisters from the original sample). This relatively large sample of siblings and cousins within the child generation permit researchers to explore within- and cross-family effects to a greater extent than is typically possible.

The main Youth data set contains the date of birth and sex of each child of NLSY mothers as well as spacing between births. Variables measuring the number of months between first and second children and between second and third children are provided for all interviewed Youth respondents for each survey year. Users interested in these and other constructed Fertility variables are encouraged to consult Appendix 5 of the Supplemental NLSY Documentation, available from CHRR and discussed briefly in Section 6 of this Handbook. To construct similar variables on the NLSY Child file, the sibling identification codes (reference numbers E3. - E8.10) to link related children.

Child Sampling Weights

The 1990 child sampling weight adjusts for child attrition between 1979 and 1990. This includes adjustment for sample reduction due to the loss of the military and economically disadvantaged white oversample as well as overall sample attrition. All children not assessed in 1990 are assigned a 1990 sampling weight of zero. Adjustments are also included for the unweighted sample over-representation of black and Hispanic youth. When presenting any of the data in tabular form, appropriate population weights should be used if the researcher intends to make population inferences from the NLSY sample. The appropriate 1986 through 1990 weight variables are referenced by E5812., E8007. and E999. respectively. Using these weights translates the unweighted sample of assessed children into one which is approximately representative of all children who have been born by a particular survey date to a nationally representative sample of women who were 14 to 21 years of age on January 1, 1979. However, considerable caution should be exercised when comparing weighted populations across survey points, as modest variations between populations or sub-populations in characteristics may well be due to variability between the child sampling weights for the different years.

Computation of the Child Weights

The weights generated for the Children of the NLSY are constructed to allow internal norms to be generated for certain assessments. For this reason weights are computed only for children who have been assessed. The child's weight equals the mother's 1979 weight multiplied by an adjustment factor that is the reciprocal of the rate at which children in a particular age, sample-type, and sex cell are assessed. When the age, sample-type, sex cells yields small counts, cases are grouped across ages (and sometimes sample types) to avoid large fluctuations in the child weights. This grouping can produce instability for older children for whom cell sizes are small. Because the economically disadvantaged non-black, non-Hispanic oversample (i.e., the poor white oversample) was not assessed in 1990 in anticipation of its discontinuance in the 1991 main survey (as well as because of financial limitations), the completion rates in certain age, sample-type, sex cells exhibit more variability than one would anticipate from the 1988 rates.

Using the Child Weights in Analysis

We caution users that comparing weighted data across years is risky, as the composition of the sample can change in subtle ways depending on who is interviewed. Analyzing data from persons interviewed in multiple years also creates problems since the yearly weights are not appropriate to such a universe. To be correct, weights for a multi-wave analysis would have to be constructed specifically for that particular set of observations.

Because many users ask whether and how weights should be used, we will provide our judgement on this matter. First, if one is estimating a regression or similar model, weights probably should not be used, or should only be used very cautiously. Many users note that the NLSY child sample is rich in black and Hispanic children, and to avoid over-representing these children in their analysis, the user is inclined to use a weighted analysis. We feel this urge should be resisted. If the user feels that blacks and/or Hispanics follow a systematically different empirical law than sample whites (more often the case than not), the analysis should be done separately by race. Most statistics texts contain the Gauss-Markov theorem for ordinary least squares, and users should familiarize themselves with the conditions under which least squares has the desired properties.

Sometimes users employ weighted least squares to obtain "average estimates" across groups that are thought to follow different empirical laws and hence have different regression coefficients. This "quick and dirty" approach to aggregation is exactly that. Weighting the data prevents the oversample from having disproportionate effect on the results, but these "averages" may differ from a weighted average of the coefficient estimates obtained from the individual samples. Moreover, even if the error terms for the regression equations for the various sample types are all mutually uncorrelated and have the same variance, it is unlikely the computed standard errors from the pooled, weighted regression will be the true standard errors.

Table 3.1 NLSY Mother and Child Samples: 1986, 1988, 1990 Surveys

	1979	1986[a]	1988[a]	1990[b]
NLSY Females				
Eligible for Interview	6283	5842	5842	4941
Interviewed	6283	5418	5312	4510
NLSY Mothers				
Interviewed	----	2910	3343	3088
Interviewed & Children Interviewed	----	2774	3196	2772
NLSY Children				
Born to Interviewed Mothers	----	5255	6543	6427
& Interviewed	----	4971	6266	----
Living in Household of Eligible Mother	----	----	----	5949[c]
& Interviewed	----	----	----	5803[d]
Assessed, i.e., Interviewed with a Valid HOME Score	----	4786	5937	5359

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[a] Sample sizes for 1986 and 1988 exclude the 441 female members of the military subsample dropped from interviewing in 1985 and the children born to these women.

[b] Sample sizes for 1990 exclude, in addition, female members of the civilian white economically disadvantaged subsample whose children were not eligible for assessment during this child survey year.

[c] Based on the mother's report that her child's usual residence is the mother's household. This information is collected during administration of the "Fertility" section of the 1990 NLSY main questionnaire. The difference between 6,427 and 5,949 is accounted for by children living in other residences or children who are deceased.

[d] Interviewers were able to directly assess a child or were able to obtain a maternal report of the child's background, health, or assessment information as recorded in either the *Child Supplement* or *Mother Supplement*.

[e] The number of children with valid scores on individual assessments varies by instrument. The *Home Observation for Measurement of the Environment (HOME)* is the only assessment for which all children are eligible.

Table 3.2 Child Assessment Completion Rates by Race/Ethnicity, 1990: Unweighted ("Raw") Data

		RACE/ETHNICITY											
		ALL CHILDREN			HISPANIC			BLACK			WHITE		
Assessment	Child Age	Total Sample	Valid Sample	Percent Valid	Total Sample	Valid Sample	Percent Valid	Total Sample	Valid Sample	Percent Valid	Total Sample	Valid Sample	Percent Valid
The HOME	< 3 Years	1328	1181	88.9	278	241	86.7	379	351	92.6	670	588	87.8
	3-5 Years	1410	1295	91.8	321	293	91.3	413	370	89.6	676	632	93.5
	6-9 Years	1769	1670	94.4	426	404	94.8	613	576	94.0	729	689	94.5
	10 Years & Older	1296	1213	93.6	279	254	91.0	588	554	94.2	429	404	94.4
Temperament	< 1 Year	409	393	96.1	80	77	96.3	112	109	97.3	215	205	95.3
	1 Year	457	446	97.6	94	91	96.8	139	137	98.6	224	218	97.3
	2-6 Years	2325	2237	96.2	525	498	94.9	688	666	96.8	1110	1071	96.5
Motor and Social Development	Under 4 Years	1763	1601	90.8	383	349	91.1	497	442	88.9	882	810	91.8
Behavior Problems	4 Years & Older	4040	3832	94.9	921	865	93.9	1496	1403	93.8	1622	1563	96.4
Verbal Memory Part A & B	4-6 Years	626	552	88.2	156	127	81.4	189	173	91.5	281	252	89.7
Verbal Memory Part C	4-6 Years	626	519	82.9	156	116	74.4	189	165	87.3	281	238	84.7
SPPC-Global	8 Years & Older	2154	2007	93.2	500	453	90.6	889	858	96.5	765	696	91.0
SPPC-Scholastic	8 Years & Older	2154	2007	93.2	500	453	90.6	889	858	96.5	765	696	91.0
Digit Span	7 Years & Older	1656	1477	89.2	407	356	87.5	612	569	93.0	636	551	86.6
PIAT Math	PPVT Age (5 Years +)	3604	3321	92.1	822	730	88.8	1368	1304	95.3	1413	1281	90.7
PIAT Reading Recognition	PPVT Age (5 Years +)	3604	3270	90.7	822	715	87.0	1369	1285	93.9	1415	1267	89.5
PIAT Reading Comprehension	PPVT Age (5 Years +)	3604	3209	89.0	684	564	82.5	1203	1092	90.8	1181	1012	85.7
PPVT-R	PPVT Age (4 Years +)	1351	1155	85.5	331	270	81.6	484	433	89.5	536	452	84.3

Note The 5803 children in this universe, of the 6401 born to mothers (excluding those who are "poor white") interviewed in 1990, are those known to be available (primarily in their mother's home) at the time of assessment

Table 3.3 Age of Child in 1990 by Age of Mother at Birth of Child: Children Assessed in 1990

AGE OF CHILD IN 1990	MATERNAL AGE AT BIRTH OF CHILD																	
	LE 14 YRS	15 YRS	16 YRS	17 YRS	18 YRS	19 YRS	20 YRS	21 YRS	22 YRS	23 YRS	24 YRS	25 YRS	26 YRS	27 YRS	28 YRS	29 YRS	30 + YRS	TOTAL
Mother not Interviewed in 1990					1			1				1	1		2			6
Lt 1 YR												40	67	60	60	52	132	411
1 YR											42	54	64	73	73	52	99	457
2 YRS									2	40	64	79	77	65	55	42	40	464
3 YRS								2	30	71	63	49	59	57	49	43	10	433
4 YRS								2	38	57	67	47	57	55	57	55	22	457
5 YRS						3	33	75	78	77	67	64	62	49	17			525
6 YRS					2	39	53	60	53	59	63	47	60	11				447
7 YRS				2	31	54	67	61	60	51	58	56	12					452
8 YRS				23	44	69	55	64	81	57	66	13						472
9 YRS			10	29	46	65	74	51	43	57	14							389
10 YRS		7	28	45	55	54	70	59	52	11								381
11 YRS	1	7	27	27	43	47	44	61	13									270
12 YRS	5	11	24	36	37	40	45	12										210
13 YRS	3	10	21	37	36	44	12											163
14 YRS	1	12	34	31	40	13												131
15 YRS	4	14	24	33	9													84
16 YRS		8	14	7														29
17 YRS	4	7	5															16
18 YRS	3	2																5
19 YRS	1																	1
Total	22	78	187	270	344	428	455	484	469	490	484	460	457	372	311	211	281	5803

Table 3.4 Year of Birth of Child in 1990 by Age of Mother at Birth of Child: Children Assessed in 1990

YEAR OF BIRTH OF CHILD	MATERNAL AGE AT BIRTH OF CHILD																	
	LE 14 YRS	15 YRS	16 YRS	17 YRS	18 YRS	19 YRS	20 YRS	21 YRS	22 YRS	23 YRS	24 YRS	25 YRS	26 YRS	27 YRS	28 YRS	29 YRS	30 + YRS	TOTAL
1971	3																	3
1972	1	5																6
1973	4	8	8															20
1974	2	9	17	13														41
1975	2	13	25	41	18													457
1976	2	10	33	26	46	22												525
1977	4	11	22	40	28	48	29											447
1978	3	11	26	30	40	41	38	31										452
1979	1	7	27	32	54	47	56	60	28									472
1980		4	26	46	50	62	68	53	49	30								389
1981			3	26	45	74	69	54	58	61	25							381
1982				16	47	57	58	68	72	49	73	32						270
1983					16	55	63	65	60	53	61	51	30					210
1984						22	54	64	57	69	61	49	64	27				163
1985							20	67	74	66	62	67	57	43	34			131
1986								22	55	70	57	55	50	64	51	32		84
1987									16	72	57	57	78	68	50	50	21	29
1988										20	65	72	70	56	52	36	59	16
1989											23	59	71	77	81	64	115	5
1990												18	37	37	43	29	86	1
Total	22	78	187	270	344	428	455	484	469	490	484	460	457	372	311	211	281	5803

Table 3.5 Child Age in 1990 By Race/Ethnicity: Children Assessed in 1990
(Unweighted Estimates)

	Percent Hispanic	Percent Black	Percent White	Mean Age of Mother at Birth
Age of Child 1990				
Less Than 1 Year	20.0	27.5	52.6	28.3
1 Year	20.1	30.6	49.2	27.5
2 Years	22.4	27.6	50.0	26.3
3 Years	24.9	27.0	48.0	25.6
4 Years	22.3	29.8	47.9	24.8
5 Years	21.9	31.0	47.0	23.6
6 Years	22.1	32.4	45.4	22.7
7 Years	22.6	36.1	41.4	21.8
8 Years	29.2	33.3	37.5	21.1
9 Years	22.1	37.5	40.4	20.2
10 Years	21.3	39.4	39.4	19.3
11 Years	23.3	43.0	33.7	19.0
12 Years	22.9	45.7	31.4	18.1
13 Years	19.6	49.1	31.3	17.7
14 Years	20.6	48.9	30.5	17.0
15 Years	19.0	58.3	22.6	16.3
16 Years	24.1	55.2	20.7	16.0
17 Years	0.0	75.0	25.0	15.0
18 Years	40.0	60.0	0.0	13.8
19 Years	0.0	0.0	100.0	13.0
Total	22.5	34.4	43.1	22.9

Table 3.6 Age of Child in 1990 by Highest Grade of School Completed by Mother
(Sample Cases)

HIGHEST GRADE COMPLETED BY MOTHER	AGE OF CHILD IN 1990 (In years)													
	<1	1	2	3	4	5	6	7	8	9	10	11	12+	TOTAL
0-11 Years	80	100	102	103	120	130	147	158	178	173	163	130	414	1998
12 Years	148	192	202	185	207	257	219	212	230	196	172	124	239	2583
13+ Years	209	188	182	169	169	175	124	134	116	81	97	56	141	1841
TOTAL	437	480	486	457	496	562	490	504	524	450	432	310	794	6422
Percent of Children Born to H.S. Dropouts	18.3	20.8	21.0	22.5	24.2	23.1	30.0	31.4	34.0	38.4	37.7	41.9	52.1	31.1

Note Sample includes all children born to women interviewed in 1990 for whom information was available Age of child was computed based on 1990 interview date of mother.

Table 3.7 Distribution of NLSY Women by Age at First Birth, Parent Status, Race/Ethnicity, and Highest Grade Completed by 1990 (Sample Cases)

HIGHEST GRADE OF SCHOOL COMPLETED	AGE AT FIRST BIRTH					PARENT STATUS		
	Under 15	**15-16**	**17-19**	**20-23**	**24 & Over**	**Total Mothers**	**Non-Mothers**	**Total Women**
TOTAL	30	291	880	991	867	3059	1403	4462
Less than 12	14	133	240	112	52	551	62	613
12 Years	14	112	496	555	340	1517	453	1970
13 Years and Above	2	46	144	324	475	991	888	1879
Percent who are H.S. dropouts	46.7	45.7	27.3	11.3	6.0	18.0	4.4	13.7
WHITE	5	85	326	476	549	1441	874	2315
Less than 12	3	38	90	40	19	190	30	220
12 Years	2	33	201	302	225	763	276	1039
13 Years and Above	0	14	35	134	305	488	568	1056
Percent who are H.S. dropouts	---	44.7	27.6	8.4	3.5	13.2	3.4	9.5
BLACK	22	151	350	304	152	979	318	1297
Less than 12	10	56	77	24	8	175	18	193
12 Years	11	64	192	152	50	469	107	576
13 Years and above	1	31	81	128	94	335	193	528
Percent who are H.S. dropouts	45.5	37.1	22.0	7.9	5.3	17.9	5.7	14.9
HISPANIC	3	55	204	211	166	639	211	850
Less than 12	1	39	73	48	25	186	14	200
12 Years	1	15	103	101	65	285	70	355
13 Years and above	1	1	28	62	76	168	127	295
Percent who are H.S. dropouts	---	70.9	35.8	22.7	15.1	29.1	6.6	23.5

Note: Sample includes all NLSY women interviewed in 1990 for whom information was available. This excludes the economically disadvantaged white oversample who were interviewed but whose children were not assessed.

Table 3.8 Distribution of NLSY Women by Number and Age of Children, and Race/Ethnicity, 1990

TYPE OF HOUSEHOLD (FEMALE)	AGE OF CHILDREN	NUMBER OF HOUSEHOLDS			
		Total	Hispanic	Black	White
Females with No Children		1422	215	337	870
Mothers with 1 Child	< 3 Years Old	346	58	70	218
	3-5 Years Old	258	59	64	135
	6-8 Years Old	171	31	66	74
	9+ Years Old	234	43	108	83
	Total	1009	191	308	510
Mothers with 2 Children	Both < 3 Years Old	68	15	14	39
	Both 3-5 Years Old	76	15	19	42
	Both 6-8 Years Old	53	10	17	26
	Both 9+ Years Old	167	34	64	69
	Older 3-5, Younger < 3	175	35	38	102
	Older 6-8, Younger < 3	67	17	22	28
	Older 6-8, Younger 3-5	188	43	48	97
	Older 9+, Younger < 3	57	10	25	22
	Older 9+, Younger 3-5	108	26	36	46
	Older 9+, Younger 6-8	178	35	62	81
	Total	1137	240	345	552
Mothers with 3 or More Children	All < 3 Years Old	33	11	13	9
	All 3-5 Years Old	22	7	8	7
	All 6-8 Years Old	22	5	9	7
	All 9+ Years Old	71	12	38	21
	Oldest 3-5, Youngest < 3	52	9	14	29
	Oldest 6-8, Youngest < 3	104	32	30	42
	Oldest 6-8, Youngest 3-5	81	16	27	38
	Oldest 9+, Youngest < 3	178	40	84	54
	Oldest 9+, Youngest 3-5	160	46	56	58
	Oldest 9+, Youngest 6-8	126	30	54	42
	Total	848	208	333	307

Note: Females are classified on the basis of available child birth dates. Sample is limited to children eligible to be assessed in 1990 and excludes children born to economically disadvantaged whites.

4

NLSY CHILD DATA DESCRIPTION

The NLSY Child data set combines selected information on mothers and children from the NLSY surveys with the child assessment data. Certain variables are derived from the longitudinal record of each NLSY mother while other items, notably the child assessments, are drawn from data collected during select survey years. The 1990 NLSY Child data set supersedes all files created in connection with the 1986 and 1988 child assessment data. The current version includes nearly all the variables created for the previous file release, updating through 1990 both for the two additional (1989, 1990) Youth survey rounds as well as for children born between the 1988 and 1990 surveys. All of the individual assessment items from the 1986-1990 child assessments as well as the constructed raw and normed scores from the 1986, 1988, and 1990 assessments appear on the current file.

The NLSY Child data, currently updated for 8,513 children as of 1990, are available in two forms: (1) a set of files on magnetic tape containing all assessment information through 1990, child-specific information on family background, pre-postnatal health, and retrospective child care as well as variables drawn from the mother's main file record; and (2) a compact disc (CD-ROM) that includes all the above mentioned child-specific information as well as software that allows access to the entire longitudinal record of all NLSY females. Both forms of the data and their accompanying documentation are described in greater detail in Section 6.

NLSY Child Data on Tape. The magnetic tape version of the NLSY Child Data contains nearly 9000 variables, including more than 1700 variables selected from the main Youth records of the mothers of the children. This version of the Child data set is composed of several files on two reels. One reel of tape holds the data and documentation for the constructed variables and assessment scores for all 8,513 identified children born to NLSY females to date. The second reel contains all the individual item responses corresponding to the child assessments exactly as they were recorded in the field. The number of observations on each of these raw item assessment files reflects the number of children interviewed in each survey round. Thus the 1986 raw item file contains 4,971 child cases, the 1988 raw item assessment file contains 6,266, and the 1990 raw item file 5,803 cases. The NLSY Child data on tape are loosely structured according to the summary format in Table 4.1. Specific items on the file may be identified by reference or "E" numbers which are used in both the NLSY Child Numeric Index and the NLSY Codebook. (They are conceptually equivalent to the "R" numbers used in the NLS Youth documentation and the "D" numbers used in the 1988 release of the Child Data.)

NLSY Child Data on CD-ROM. The Child data are also available on compact disc (CD-ROM) media for use in a PC/MS-DOS environment. The CD-ROM, which contains the entire NLSY 1979-1991 record for all NLS Youth female respondents, features search and extracting software that allows a user to access all constructed child-based variables and to link all main file variables of any NLSY mother to each of her children. All the child-based, constructed variables that appear on the tape version and all the assessment variables, both individual "raw" items and created scores, are divided into seventeen topic areas or record types. The Child CD-ROM also contains the entire NLSY 1979-1991 database for female respondents, even though child data are only available through 1990. The CD-ROM child record types do **not** contain the 1,718 variables on the tape version that are drawn directly from the mother's record and assigned to each of her children. Since the complete NLSY record can be accessed for all mothers, the CD-ROM user can easily link children to any of the nearly 34,000 NLSY variables, rather than only the variables that were selected for the child file on magnetic tape. Powerful search and extracting software on the CD-ROM greatly facilitates the process of finding and using the appropriate variables.

Subject Content of the NLSY Child Data Set. The following discussion of major data elements is by no means complete. Interested persons are encouraged to acquire copies of the child assessment instruments and NLS Youth questionnaires or to browse the documentation files on the NLSY compact discs for more detailed information on the types of data available. Researchers interested in linking the NLSY Child Data to variables found on the NLSY main, workhistory, or geocode data files may do so by accessing these main Youth files either via tape or CD-ROM.

The unit of observation on the Child files is each of the 8,513 biological children ever born to the women identified as mothers in the NLS Youth cohort at any survey point between 1979 and 1990. The child sample, when weighted, represents a cross section of children born to a nationally representative sample of women aged 25-32 on January 1, 1990.[2] Sampling design and weighting procedures for the Child data are explained in Section 3 of this Handbook.

The Child data set outlined in Table 4.1 includes: (1) information on each child's family background, family employment and education history, household composition, prenatal and postnatal health care, child care experiences, and selected items and scores from the 1986, 1988, and 1990 child assessment data; as well as (2) information on each mother's family of origin, marital and fertility history, income and earnings, health and deviance histories, and attitudes and aspirations. While some information is cross-sectional, many variables create a profile of the child at the date of each of the mother's interviews or at "key points" in the child's life. The following discussion outlines the major categories of variables that can be found in the file. The "E" numbers in parentheses indicate the range of Child reference numbers encompassed by each topic. These reference numbers, which appear in the Child Numeric Index of variables and the Child Codebook, are discussed further in Section 6 of this Handbook.

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[2] Children not "interviewed" in a particular assessment year are assigned "zero" for their child weight in that year and thus would be dropped from any weighted child analyses.

Child Background Characteristics

This series of variables contains a number of key variables that enable users to link child data with other Youth files as well as to easily connect certain children with various kinds of child file information. Also in this group are several demographic variables, discussed in detail below, that describe each child's age and usual living arrangement at the time of the mother's interview, and a set of variables indicating whether the child's father was present in the household at the date of interview.

Missing Values. Many of the Child Background variables apply to all the children on the file without reference to a particular interview year. Therefore, unless an item is taken directly from the mother's record in a particular year, missing values have generally been collapsed into a minimal number of categories, "-4" for valid skip and a "-3" for invalid skip. E64.10 - E64.14, E70.10, and E70.20 represent exceptions to this pattern. The missing values for these 1990 child assessment dates and ages distinguish invalid skips from the number of children not interviewed in that year ("-5"). Items on the tape version of the Child data set that are taken directly from the mother's record reflect the missing values originally assigned on the main NLS Youth files. Users can find more details about missing value codes in Section 6 of this Handbook and in appropriate parts of the *NLS Handbook* and *NLS Users Guide*.

Child Linkage Variables.

(E1. - E52.) These items enable the user to connect the NLSY Child file with information attached to the mother on the main NLS Youth tape, the Workhistory files, the Geocode files, and the supplementary Fertility files. (The main Youth data files are described briefly in Section 6 and discussed more fully in the *NLS Handbook* and the *NLS Users Guide*.) The case identification codes (E1. - E17.) enable the user to link children with their mother or with their siblings, with data from other child files, and with other interviewed female relatives of the child's mother who are respondents on the main NLSY tape. The Child identification code (E1.) is a seven-digit code, unique to each child. The first five digits of the child ID are identical to the mother's ID (E2.). The final two digits, with a few exceptions, reflect the birth order of the child. For example, a child ID of "1267501" means that the child's mother's ID is "12675" and the child was assigned a 2-digit ID of "01" when the birth was first reported by the mother in her own main NLSY interview. While only a very small number of children were initially assigned 2-digit ID's out of birth order, users should rely on variable E58. as the most accurate indicator of birth sequence (see Child Demographic Information below).

Due to the nature of the original sample design, the NLSY cohort contains multiple respondents from the same household and often from the same family unit. A subset of respondents related to the mothers of the children are identified by variables E9. - E17. on the Child file. The ID's for these relatives of the mother were derived from information about other interviewed NLSY respondents contained in variables with reference numbers R1.50 - R1.61 on the NLS Youth main file. As already noted, many children have siblings who were also assessed. These children have the same mother ID embedded in their own child ID. That is, the first five digits of children who are siblings will be the same. Table 3.8 provides a distribution of the number of children born to the NLSY female respondents.

Mother interview dates (E18. - E37.40) and child ages at each of the mother's survey date are also included. The user should note that children who were reported deceased or who were not yet born as of a certain interview date were assigned a value of -4 on variables E38. - E47.20, age of child at each interview date of mother. However, children deceased as of a particular interview date are not excluded from valid values on other similar variables drawn from the mother's record such as E48. - E51., "Is Child Youngest as of the 1982-85 Date of Interview Date of Mother", or any mother- specific data (such as CPS information) tied to interview dates.

Users should be aware that while many consistency checks are conducted at CHRR prior to release of the data, some discrepancies in mother reports of child birth dates remain reflected in the constructed date and age variables on the file. While the vast majority of reports across years are consistent, there is a small percentage of records that yield inconsistent age variables across years when dates reported by the mother are used to compute age at interview and age at assessment.

Child Demographic Information.

(E53. - E70.20). Demographic items for each child include sex, race, date of birth, birth order, dates of each child interview, age at each assessment date, and grade at the time of the 1986 child interview.[3] Also in this series is a created variable indicating the age of the child's mother at the time of the child's birth (E70.). The race variable for each child, derived from the main Youth record, is identical to the reported race/ethnicity of the mother. The race/ethnicity variable referred to in E53. is based on the 3-category race/ethnicity of the mother (R2147.) which is a created variable on the NLS Youth main tape. This variable is a collapsed version of the more detailed categories in the original sampling type of the mother (E308.) that was coded on the householder's report during initial screening in the fall of 1978. This Household Screener race information was based on interviewer observation unless the main Youth respondent was of mixed racial background, in which case the race of the Youth respondent's father was assigned. The derivation of the variable that was used to create E53. is documented in the main NLSY codebook with the entry for variable R2147., "Racial/Ethnic Cohort from Screener 79 Int." This variable may differ from recodes based on the respondent's self-reported ethnicity collected in the 1979 survey (E426.). CD-ROM users should note that additional race/ethnicity information, other than that found in E53., must be accessed from the mother's record.

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[3] Users interested in constructing a school grade variable for other assessment years must go to the Child Assessment Raw Item Data (record types CHDSUP on the NLSY Child CD-ROM) for the relevant inputs.

Child Assessment Age. Each child has potentially two assessment ages, one tied to the day the interviewer administered the *Child Supplement* and one specific to the date the mother completed the *Mother Supplement*. Some children had their Child Supplement administered on a date different from the day their mother filled out the Mother Supplement. For only a few cases did this difference in schedule result in a discrepancy of one month or more between the two assessment dates. Users controlling for age on specific assessments should choose either the Mother Supplement or Child Supplement age variable appropriate for that test. Because the assessment dates in 1988, as recorded by the interviewer, were not reliably data-entered, they do not appear on the file. The child assessment ages (E65., E66., E68., E69., E70.10, E70.20) are the most accurate indicators of how old a child was at the time of a particular test. The interviewer versions of child date of birth, age, and date of interview (recorded in the supplements or on the Child Face Sheet) do not reflect the consistency checks across multiple inputs and the internal edits based on hard copy information that were incorporated in the constructed child assessment age variables.

Child Residence.

(E71. - E80.). These variables describe the usual living arrangement of the child at each of the mother's interview dates, i.e., whether the child resides with the mother, father or elsewhere. For the years 1979-1981, 1983, and 1985 these variables are constructed from information in the household record which simply indicates whether or not a particular family member is present. Child residence for years 1982, 1984, 1986 and each year after comes from the Fertility section of the NLS main Youth questionnaire. These latter variables provide greater detail on the residence of children not living with their mother. Note that for years 1982-1985, the responses "child lives part time with mother and part time with father or other person" were not available to respondents asked "Where does this child usually live?"

Father Presence/Visitation.

(E81. - E101.). This series indicates, for 1984 through 1988, for children living with their mother at the time of the main survey, whether the child's father is alive, whether he is present in the household, and if not, the degree of contact the child has with him. Users who wish to create a parallel set of "father" variables for 1989 and 1990 should access the main Youth file and extract the variables listed in Table 4.2. Constructed child-based versions of the 1989 and 1990 variables are planned for the next release of the Child data. Users are encouraged to contact CHRR prior to starting any extensive programming to see if the 1989-1990 father variables have been completed.

Family Background

Child's Parental Background & Environment.

(E300. - E382.50). Characteristics of the child's immediate family environment include mother's date of birth, age of mother at each interview date, date(s) of birth of mother's spouse(s), age of mother at first birth, a measure of maternal intelligence, mother's residence, religious preference and church attendance. Also included is information on mother's family of origin, maternal marital status and history, selected items from the mother's high school transcripts, and the educational background of the child's family. Of course, this represents only a portion of relevant child environment variables as, for example, the data files include a substantial battery of questions relating to the mother's employment, education, family experiences and so on. Many of the items described below overlap this topical area.

References: Parental Background & Environment.

"Inconsistencies in Age at 1st, 2nd, and 3rd Births on the 1986 Supplemental Fertility File." 1988. Columbus: The Ohio State University, Center for Human Resource Research.

AFQT/ASVAB.

The Armed Forces Qualification Test (AFQT) intelligence measures (E336., E336.10) are derived from the mother's Profile scores on the Armed Services Vocational Aptitude Battery (ASVAB), administered to NLSY respondents in 1980. The AFQT is used to determine trainability and general aptitude for enlistment in the Armed Forces. Two versions of the summary AFQT are available. The first version of the measure (E336.), used operationally by researchers and the U.S. government through 1988, is computed by summing the raw scores for the following sections of the ASVAB: Section 2 - Arithmetic Reasoning, Section 3 - Word Knowledge, Section 4 - Paragraph Comprehension and one half of the score from Section 5 - Numerical Operations. Subsequent analyses by the Department of Defense indicated that a change in the formulation of the AFQT was appropriate based on the disproportionate practice effect of the speeded subtest, numerical operations. The algorithm for the revised version of the AFQT (E336.10) involves: (1) computing a Verbal composite score by summing word knowledge and paragraph comprehension raw scores; (2) converting subtest raw scores for Verbal, math knowledge, and arithmetic reasoning; (3) multiplying the Verbal standard scores by 2; (4) summing the standard scores for verbal, math knowledge, and arithmetic reasoning; and (5) converting the summed standard score to a percentile. Details on the nature of these two scores can be found in the Addendum to the NLSY documentation item, *Profile of American Youth - Attachment 106*. The NLS Youth tape contains thirty-three original and revised PROFILES variables including raw scores, scale scores, and standard errors for each of the subtests, testing sampling weight, test disposition, and high school graduate status at time of testing. The NLSY Child file, however, provides only the two composite AFQT scores mentioned above and scale scores for the individual sections of the total battery. Attachment 106 of the Supplemental NLSY Documentation (see Section 6 of this Handbook) provides general information on the Profiles of American Youth study, technical information on the ASVAB scale scores, an annotated bibliography of publications, and an example of the test scores report (Department of Defense, 1982). The current *NLS Users Guide* also describes the ASVAB data in detail.

References: AFQT/ASVAB.

Bock, R. Darrell and Robert J. Mislevy. 1981. The Profile of American Youth: Data Quality Analysis of the Armed Services Vocational Aptitude Battery. Chicago: NORC, August.

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Bock, R. Darrell and E.G.J. Moore. 1981. The Profile of American Youth: Demographic Influences on ASVAB Performance. Chicago: NORC, December.

Claudy, John G. and Lauri Steel. 1990. "Armed Services Vocational Aptitude Battery: Validation for Civilian Occupations Using National Longitudinal Survey of Youth Data. AFJRL Technical Report 90-29, American Institute for Research (NTIS # AD-225-244-3-XAB). Washington, D.C.: National Technical Information Service.

Department of Defense. 1982. Profile of American Youth: 1980 Nationwide Administration of the Armed Services Vocational Aptitude Battery. Washington, D.C.: Office of the Assistant Secretary of Defense, March. Also available from CHRR as Attachment 106 of the Supplemental NLSY Documentation.

Frankel, Martin R. and Harold A. McWilliams. 1981. "The Profile of American Youth: Technical Sampling Report." Chicago: NORC.

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McWilliams, Harold A. 1980. "The Profile of American Youth: Field Report." Chicago: NORC.

Sum, Andrew M., Paul Harrington and William Goedicke. 1986. Basic Skills of America's Teens and Youth Adults: Findings of the 1980 National ASVAB Testing and Their Implications for Education, Employment and Training Policies and Programs. New York: Ford Foundation.

Waters, Brian K. 1982. "The Profile of American Youth: Annotated Bibliography of DOD Related Publications." Technical Memorandum 82-1. Washington, D.C.: Department of Defense.

Religion.

The religious denomination categories used to code the 1979 and childhood religion of mother (E433. E434.) and the 1982 religion variables (E341. - E343.) are listed in Attachment 103 of the Supplemental NLSY Documentation (available from CHRR and discussed in Section 6 of this Handbook).

Region & Urban/Rural Residence.

The derivation of the original variable describing maternal region of residence at each interview date can be found in the main NLSY codebook with the entry for R2164., "Region of Current Residence 1979." The list of region codes appears in Attachment 100 of the Supplemental NLSY Documentation (discussed in Section 6 of this Handbook). Essentially, these variable definitions parallel those used by the U.S. Bureau of the Census.

The variables indicating whether the mother's residence at the date of interview was urban or rural are constructed using the total and urban Census population data for the county of residence. Users interested in the derivation of these variables should consult Appendix 6 of the Supplemental NLSY Documentation.

Spouse Characteristics.

Variables that are referenced by E348. - E379. describe the educational, occupational, religious, marital and health background of spouses of the child's mother as of the 1982 interview with the mother. This detailed information was collected only in that survey round.

Background of Maternal Family of Origin.

(E383. - E459.). These variables describe the ethnicity, education, prior employment, religious background, and residence of the mother's family of origin. Most of this information comes from the 1979 and 1980 main NLS Youth interviews.

The codes used to describe the occupations of mother's family of origin are defined in Attachment 3, Industry and Occupation Codes, of the Supplemental NLSY Documentation (see Section 6 of this Handbook). This compilation includes (1) the 3-digit 1970 Census classifications used to code job and training information as well as occupational aspiration information from the 1979-87 questionnaires and employer supplements, and (2) the 3-digit 1980 Census codes which have been used, beginning with the 1982 survey, to classify the main respondents' most current or most recent job.

Users interested in a detailed breakdown of the religion in which the mother was raised, referenced by E434. (R103.10), should consult Attachment 103 of the Supplemental NLSY Documentation (available from the Center for Human Resource Research) for definitions of the 3-digit codes. An abbreviated version of this information collapsed into nine categories is provided in E433. (R103.).

In 1988 a series of questions was asked of the main Youth respondents about the date of birth and the current age of their parents. These appear on the Child tape file as characteristics of each child's maternal grandparents (E451. - E457.). Users of the Child Data on CD-ROM will find the Youth versions of these variables (R25051. - R25058.) in the FAMBKGN record type of the Youth file.

References: Maternal Family of Origin.

U.S. Bureau of the Census. 1971. 1970 Census of Population Alphabetical Index of Industries and Occupations. Washington, D.C.: U.S. Government Printing Office.

U.S. Bureau of the Census. 1981. 1980 Census of Population Alphabetical Index of Industries and Occupations. Washington, D.C.: U.S. Government Printing Office.

Maternal Marital History.

(E460. - E529.18; E612. - E792.). Key variables on the mother's marital status at each interview date are provided as well as month and year of the beginning and end of first and second marriages. These variables enable the user to determine if the child's mother was ever married or ever divorced as well as the status and the number of mother's marriages at key points in the child's life. Variables E612. - E792. profile the date and type of up to three marital status transitions reported (since the preceding survey date) at each of the mother's survey dates.

References: Maternal Marital History.

"Inconsistencies in the NLSY Marital History Data - 1986 Supplemental Fertility File." 1988. Columbus: The Ohio State University, Center for Human Resource Research.

Family Education & Competence.

(E530. - E611.12). This series of variables describes the educational background of the child's mother at each of the mother's interview dates. Included are maternal enrollment status at survey date and highest grade completed by the mother at each date of interview. Variables that summarize the education of the mother's spouse or partner as well as the other adult members of the household is discussed with the Maternal Household Composition variables.

Selected information on mother's high school absences, class rank and size, and test scores were taken from the NLSY High School and Transcript Surveys. Designed to supplement both subjective respondent information on educational experiences from the main survey as well as data from the transcript survey (described below), the 1979 survey of the last secondary school attended gathered information on: each school's grading system, course offerings, dropout rate, student body composition, faculty characteristics and qualifications, as well as respondent scores from a variety of intelligence and aptitude tests such as the Differential Aptitude Test, Stanford-Binet, and Wechsler Intelligence Scale. The 96 variables from this school survey are located within the SCHLSURV record type on the NLS main Youth file. Beginning in 1980, transcript information was collected for civilian NLSY respondents who were expected to complete high school. Data collected included high school course titles, course descriptions, and final grades for up to 64 courses taken by each surveyed respondent. By the end of the 1983 round, transcript data had been obtained for 77 percent of the NLSY civilian respondents. The differential response rate from item to item on this file was, however, considerable with only modest percentages, for example, providing test score information. The full series of 320 transcript variables can be found within the TRANSURV file on the main NLSY tape and is fully documented in the current *NLS Users Guide*.

Additional information on both the school and transcript surveys is also provided in the NLSY main file documentation item "High School Transcript Survey: Overview and Codebook" which contains background information, copies of the survey instruments, a codebook, and bibliography of resource materials. This supplemental NLSY documentation is discussed in Section 6 of this Handbook.

References: Family Education & Competence.

NORC. 1980. "The School and Transcript Surveys: Technical Report." Columbus: The Ohio State University, National Center for Research in Vocational Education, October.

NORC. 1982. "Transcripts II: Technical Report." Columbus: The Ohio State University, National Center for Research in Vocational Education.

NORC. 1984. "Transcripts III: Technical Report." Columbus: The Ohio Sate University, National Center for Research in Vocational Education.

Maternal Household Composition

(E900. - E1273.). These variables describe the individuals sharing permanent residence in the mother's household at the time of each interview. Variables include number of family members, family units, children and adults present at date of interview. The family unit includes all those related by blood, marriage, or adoption who share the same household. The household unit additionally includes others living in the same residence as the respondent. There are also indicators of whether a spouse, partner, mother or father of the child's mother is present as well as the number of household members present in various age ranges. These household and family variables are created from the yearly household enumeration roster. As this information is provided for all survey dates, some variables describe the composition of the mother's household prior to the birth of a particular child. Variables referring to whether a spouse or partner is present in the household are based strictly on the NLS main Youth household record, not on the marital section of the main Youth questionnaire. The "0" or "no" category for the "spouse present" variables in this series includes responses from both ever married and never married mothers.

Maternal Well Being

Maternal Health History.

(E1300. - E1368.). These maternal health items indicate, as of each survey date, whether the mother has any health conditions that affect her current employment or ability to work. Included are the dates for calculating the duration of limitations on mother's activity. This series of variables also describes maternal hair and eye color, height at various surveys, weight at various surveys, date and age at menarche, date and age at first intercourse, and self reports of shyness. CD-ROM users should take particular note that only eight constructed maternal health variables were constructed as child-based variables and stored in Child record type MOMWELL. Other health-related information can be accessed from the mother's main NLSY record, using the "R" reference numbers that appear in the Child codebook or numeric.

The reports of mother's height are based on items from the 1981, 1982, 1983, and 1985 Health Sections of the main NLS Youth questionnaire. The first report of mother's weight was obtained in 1981, and then again in the 1982, 1983, 1985, 1986, and 1988-1990 main interview schedules. Mother's weight at the beginning and end of each pregnancy as well as weight gain during pregnancy are grouped with the prenatal variables (see Child Prenatal Health History below). CD-ROM users should note that with the exception of E1354. (height in 1981) and E1356. (height in 1983), which appear on the MOMWELL Child

Record Type, maternal height and weight variables must be accessed from the NLS Youth Record Type HEALTH.

The variables describing onset of maternal menarche and first intercourse (E1363. - E1368.) were constructed from data collected in 1983, 1984, and 1985. Respondents who had experienced intercourse (or menarche) were asked the age at which the event occurred. The interviewer then combined this age information with the mother's birth date to compute the year in which the event took place. The respondent was then supplied with the year and then asked for the month of occurrence. Users interested in the precise protocol of these questions should consult the Fertility Sections of the appropriate NLS main Youth questionnaires. The two shyness reports that appear on the tape version of the Child data set, one retrospective question about shyness at age 6 and the other as an adult, were obtained in 1985. They are constructed as a four-point scale, from extremely shy (1) to extremely outgoing (4).

Maternal Deviance History.

(E1369. - E1658.). This category refers to mother's self-reports of drug use, delinquency, and police contacts, substance use and its impact on work, and self-reports of alcohol use by the youth and her family.

The 1980 NLSY survey contained a special self-report index on respondents' participation in and income from such delinquent and criminal activities as skipping school, alcohol/marijuana use, vandalism, shoplifting, drug dealing, robbery, assault, or gambling during the previous twelve month period. Adapted from previously used self-report delinquency scales, the instrument utilized an expanded response scale to differentiate very highly delinquent youth from occasional participants. A second set of questions measured involvement with the criminal justice system by assessing the extent of police contacts, resulting criminal convictions and sentences (probation, incarceration) received. Nearly all of the 71 variables on illegal activities that are found on the main NLSY tape were extracted and included on the child file. Sections 15 and 16 of the 1980 NLS main Youth questionnaire and the accompanying confidential "Form J" contain the delinquency and police contact questions. Crowley (1981, 1982) presents various tabulations of these data by sex, race, education and poverty status. Appendices within both reports discuss the development of the index, the specific procedures used to administer the confidential form, issues intrinsic in measuring delinquent behavior and criminal activity, and the consistency of responses to the various delinquency and police contact measures.

The 1982-1985, 1988, and 1989 NLS Youth surveys include questions which focus on the development of drinking patterns, consumption of various alcoholic beverages, and the impact of alcohol use on school work and/or job behavior. The 1988 survey round also included detailed reports from the respondent about the extensiveness of alcohol use by other family members and relatives. The complete set of alcohol questions, (E1400. - E1472.; E1563. - E1642.31) was included on the tape version of the Child file. CD-ROM users must access the mother's record to extract these variables.

An extensive set of questions on substance use was included in the 1984 and 1988 main Youth surveys. Information was collected on respondents' use of cigarettes and marijuana, as well as illicit and non-prescribed use of amphetamines, barbiturates, tranquilizers, and other drugs. Questions included monthly use of marijuana over the years 1979-1984, lifetime use of marijuana and other illicit drugs, age at first use, and substance abuse on the job. These variables appear as E1473. - E1562.; E1643. - E1658. on the Child file. Users of the Child CD-ROM should consult the "R" numbers assigned to these items in the Child Codebook or Numeric in order to locate them in the Youth record. Some evaluation research on these data, carried out by Mensch and Kandel (1988), suggests some under-reporting, primarily by marginal substance users.

References: Maternal Health & Deviance.

Abma, Joyce C. 1991. "Alcohol Use Among Young Adults in 1988: Results from the National Longitudinal Survey of Youth." Working Paper. Columbus: The Ohio State University, Center for Human Resource Research.

Abma, Joyce C. and Frank L. Mott. 1990. "Is There a 'Bad Mother' Syndrome? Evidence of overlapping High Risk Behavior During Pregnancy Among a National Cross-section of Young Mothers." Presented: Annual Meetings of the Population Association of American, Toronto.

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Caughy, Margaret O'Brien. 1992. The Influence of Early Health Morbidity and Environmental Risk Factors on the Cognitive Functioning of Young School Age Children. Ph.D. Dissertation, The Johns Hopkins University, School of Hygiene and Public Health.

Crowley, Joan E. 1981. "Crime and Delinquency: Descriptions and Distributions". In Pathways to the Future: A Longitudinal Study of Young Americans. Preliminary Report on the 1980 Survey, Michael E. Borus, ed. Columbus: The Ohio State University, Center for Human Resource Research, December.

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Dornfeld, Maude and Candace Kruttschnitt. 1992. "Do the Stereotypes fit? Mapping Gender-Specific Outcomes and Risk Factors." Criminology 30, 3: 397-419.

Ketterlinus, Robert D., Sandra Henderson and Michael E. Lamb. 1990. "Maternal Age, Sociodemographics, Prenatal Health, and Behavior: Influences on Neonatal Risk Status." Journal of Adolescent Health Care 11, 5 (September): 423-431.

Martin, Sandra L. and Margaret R. Burchinal. 1992. "Young Women's Antisocial Behavior and the Later Emotional and Behavioral Health of their Children." American Journal of Public Health, Vol. 82, No. 7 (July): 1007-1010.

Mensch, Barbara S. and Denise B. Kandel. 1988. "Underreporting of Substance Use in a National Longitudinal Youth Cohort: Individual and Interviewer Effects." Public Opinion Quarterly 52, 1 (Spring): 100-124.

Mott, Frank L. and R. Jean Haurin. 1988. "Linkages Between Sexual Activity and Alcohol and Drug Use Among American Adolescents." Family Planning Perspectives 20, 3 (May/June): 128-136.

Rosenbaum, Emily and Denise B. Kandel. 1990. "Early Onset of Adolescent Sexual Behavior and Drug Involvement." Journal of Marriage and the Family 52, 3 (August): 783-798.

Weitzman, Michael, Steven Gortmaker and Arthur Sobol. "Maternal Smoking and Behavior Problems of Children." Pediatrics 90, 3 (September): 342-349.

Maternal Attitudes, Expectations, Aspirations.

(E1369. - E1658.). This group of variables includes maternal birth expectations at selected interview dates, knowledge of the world of work in 1979, influence of a significant other on future decisions in 1979, career aspirations, a 4-item subset from the Rotter Scale of locus of control in 1979, the Rosenberg self-esteem scale in 1980 and 1987, attitudes toward work and school in 1979, women's roles items in 1979, 1982, and 1987, and global measures of job satisfaction for all survey years.

Influence of Significant Others. The "On Significant Others" section of the 1979 NLS main Youth questionnaire is the source of the discrete set of nine variables dealing with the attitude of the most influential person in each respondent's life toward certain key career, occupational, residence, and childbearing decisions. These variables are available for women who were between the ages of 14 and 17 in 1979.

Rotter Locus of Control Scale. The Rotter Internal-External Locus of Control scale in the 1979 NLSY survey is a 4-item abbreviated version of a 23-item forced choice questionnaire adapted from the 60-item Rotter Adult I-E scale developed by Rotter in 1966. The scale was designed to measure the extent to which individuals believe they have control over their lives through self-motivation or self- determination (internal control) as opposed to the extent that the environment (i.e., chance, fate, luck) controls their lives (external control). The locus of control construct is formulated within the framework of social learning theory. The scale is scored in the external direction, that is, the higher the score, the more external the individual.

In order to score the Rotter scale in the NLSY, one has to generate a 4-point scale for each of the paired items and then sum the scores. For example, the first pair has the following two statements:

1. What happens to me is my own doing. (internal control item)
2. Sometimes I feel that I don't have enough control over the direction my life is taking. (external control item)

Respondents were asked to select one of each of the paired statements and decide if the selected statement was much closer or slightly closer to their opinion of themselves. The following describes how the scale is constructed:

Internal Control Item		External Control Item	
Much Closer	Slightly Closer	Slightly Closer	Much Closer
1	2	3	4

Each of the 4-paired items is constructed in the same manner as the above example. The values for each item are then summed. In the above example, the maximum possible score is 16, indicating high external control while the minimum possible score is 4, indicating high internal control. The summed score on the NLSY abbreviated version correlates well with self-esteem, education, and social class, but the internal consistency of the scale is quite low for the whole Youth cohort (alpha: .36). Separate estimates by race and sex do not yield significantly higher reliability estimates.

References: Rotter Scale/Locus of Control.

Boor, M. 1974. "Dimensions of Internal-External Control and Marital Status, Sex, Age, and College Class." *Journal of Social Psychology*, 94: 145-146.

Cherlin, A. and L.B. Bourque. 1974. "Dimensionality and Reliability of the Rotter I-E Scale." *Sociometry*, 37: 565-582.

Doherty, William and Cynthia Baldwin. 1985. "Shifts and Stability in Locus of Control During the 1970s: Divergence of the Sexes." *Journal of Personality and Social Psychology*, 48, 4: 1048-1053.

Lefcourt, Herbert M. 1976. *Locus of Control: Current Trends in Theory and Research*. Hillsdale, New Jersey: Lawrence Erlbaum Associates.

Rotter, Julian B. 1966. "Generalized Expectancies for Internal Versus External Control of Reinforcement." *Psychological Monographs General and Applied*, 80 (1, Whole No. 609).

Rotter, Julian B. 1975. "Some Problems and Misconceptions Related to the Construct of Internal versus External Control of Reinforcement." *Journal of Consulting and Clinical Psychology*, 43: 56-67.

Watson, Jane M. 1981. "A Note on the Dimensionality of the Rotter Locus of Control Scale." *Australian Journal of Psychology*, 33, 3: 319-330.

Rosenberg Scale. The Rosenberg self-esteem scale was administered in the 1980 and 1987 NLS main Youth surveys. The 10-item scale, designed for adolescents and adults, measures the self evaluation that an individual makes and customarily maintains. It describes a degree of approval or disapproval toward oneself (Rosenberg, 1965, p. 5). The scale is short, widely used, and has accumulated evidence of validity and reliability. It contains ten statements of self approval and disapproval with which respondents are asked to strongly agree, agree, disagree or strongly disagree. Items A, B, D, F, G (below) need to be reversed prior to scoring in order for a higher score to designate higher self-esteem. Typically, the raw items are summed or the standardized items are averaged to create a summary score. The scale has proven highly internally consistent with reliability coefficients that range from .84 (Strocchia-Rivera, 1988) to .87 (Menaghan, 1990), depending on the nature of the NLSY sample selected. The NLSY 1980 version of the Rosenberg was administered as follows:

> Interviewer to respondent: "Now I'm going to read a list of opinions people have about themselves." (HAND CARD T) "After I read each one I want you to tell me how much you agree or disagree with these opinions. (First/next) (READ STATEMENT) Do you strongly agree, agree, disagree, or strongly disagree with this opinion?

	Strongly Agree	Agree	Disagree	Strongly Disagree
A. I feel that I'm a person of worth, at least on an equal basis with others.	1	2	3	4
B. I feel that I have a number of good qualities.	1	2	3	4
C. All in all, I am inclined to feel that I am a failure.	1	2	3	4
D. I am able to do things as well as most other people.	1	2	3	4
E. I feel I do not have much to be proud of.	1	2	3	4
F. I take a positive attitude toward myself.	1	2	3	4
G. On the whole, I am satisfied with myself.	1	2	3	4
H. I wish I could have more respect for myself.	1	2	3	4
I. I certainly feel useless at times.	1	2	3	4
J. At times I think I am no good at all.	1	2	3	4

References: Rosenberg Scale/Self-Esteem.

Ketterlinus, Robert D., Sandra H. Henderson and Michael E. Lamb. 1992. "The Effect of Type of Child Care and Maternal Employment and Self Esteem on Children's Behavioral Adjustment: Findings from the U.S. National Longitudinal Survey of Youth." In B. Pierrehumbert, ed., L'Accueil du Jeune Enfant: Politiques et Recherches dans les Differents Pays. Paris: Les Editions Sociales.

Menaghan, Elizabeth G. 1990. "The Impact of Occupational and Economic Pressures on Young Mothers' Self-Esteem: Evidence from the NLSY." Presented: Annual Meetings of the Society for the Sociological Study of Social Problems, Washington, D.C., August 9.

Rosenberg, Morris. 1965. Society and the Adolescent Self-Image. Princeton: Princeton University Press.

____________. 1986. Conceiving the Self. NY: Basic Books, Orig. Ed. 1979. Melbourne, Florida: Krieger Publishing Co., Inc., Reprint.

Strocchia-Rivera, Lenore. 1988. Self-Esteem and Educational Aspirations as Antecedents of Adolescent Unmarried Motherhood. Ph.D. Dissertation, The University of Texas at Austin.

Wylie, Ruth C. 1979. The Self-Concept Volume 2: Theory and Research on Selected Topics. Lincoln, Nebraska: University of Nebraska Press.

____________. 1974. *The Self-Concept Volume 1: A Review of Methodological Considerations and Measuring Instruments.* Lincoln, Nebraska, University of Nebraska Press.

Women's Roles/Family Attitudes. The 1979, 1982, and 1987 NLSY interview schedules included eight attitude items on various dimensions of women's roles. The 5-point items were chosen partly because they had appeared in the original (1960s) NLS younger cohorts and because they have been frequently used and cited in the literature (Mason, et al., 1975). Most of the items focus on women's employment. Analysis of single-item distributions in the NLSY data indicates that, while most youth exhibited generally nontraditional orientations towards women's roles, there were significant differences in attitudes by race, level of educational expectations, and by their fertility expectations (Mott, 1984). When these items were collapsed into a single scale ranging from 8 to 40, there were persistent differentials in response congruence by age and race.

Research conducted in 1981 on the 1979 NLSY data used an index based on the sum of the responses to the following five of the eight items:

(1) A woman's place is in the home, not in the office or shop,
(2) A wife who carries out her full family responsibilities doesn't have time for outside employment,
(3) The employment of wives leads to more juvenile delinquency,
(4) It is much better for everyone concerned if the man is the achiever outside the home and the woman takes care of the family,
(5) Women are much happier if they stay at home and take care of their children.

Inspection of factor analyses and inter-item correlations showed that the five selected items all correlated well with each other, while the remaining three items were unrelated. Items were rated on a four point scale ranging from strongly agree to strongly disagree, and were summed to form an index ranging in value from 5 to 20 with higher scores indicating more traditional attitudes. Essentially, each of the selected items deals with the conflict between work outside the home and the successful fulfillment of the family roles which women have traditionally held. Inter-item correlations range from .40 to .56. The total five-item scale yields a reliability coefficient of .74. For more detail on the development, measurement properties, and correlates of the traditionality scale in the NLSY data, see Shapiro and Crowley, 1981.

Additional analyses at CHRR used a scale composed of four of the eight items to construct a measure of individuals' sex-role attitudes regarding wives' employment and household responsibilities (Mott, 1984). Selection of the items was based on an initial factor analysis of six questions related to women's roles from the 1979 NLS main Youth survey. A single factor was identified by using principal factoring with iterations. The rotated varimax solution revealed that the four items subsequently scaled loaded reasonably well on this one dimension (.72, .62, .70, .62). The scales' reliability, as measured by Chronbach's alpha, was .765 for the four selected items. Questions were scored from 1-4 (don't knows excluded) and coded so that lower scores reflected more traditional attitudes and higher scores represented more modern or egalitarian types of responses. The items were then summed to create a scale having a theoretical range of 4-16. Listwise deletion was employed in calculating scale values for individual respondents. The scale had a mean of 11.07 and a standard deviation equal to 2.42.

References: Womens Roles.

Mason, Karen Oppenheim with Daniel R. Denison and Anita J. Schacht. 1975. "Sex-Role Attitude Items and Scales from U.S. Sample Surveys." DHEW Publication No. (ADM) 75-248. Washington, D.C.: U.S. Department of Health, Education and Welfare; Public Health Service; Alcohol, Drug Abuse, and Mental Health Administration.

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Shapiro, David and Joan E. Crowley. 1981. "Aspirations and Expectations for the Future: Education, Work Activity, and Fertility." In Michael E. Borus et al., Pathways to the Future: A Report on the National Longitudinal Survey of Youth Labor Market Experience in 1979. Columbus: The Ohio State University, Center for Human Resource Research.

Job Satisfaction. Included in the 1979-1982, and 1988 NLS main Youth surveys are job satisfaction items drawn from the University of Michigan's Quality of Employment Surveys (QES) of 1969, 1973, and 1977. The Survey scale was chosen for use in the NLSY due to its high reliability in applications across a broad cross-section of employed respondents and its ease of administration relative to other job satisfaction scales (Mangione, 1973 and Seashore and Faber, 1975). In addition, the file contains a global maternal job satisfaction item for each interview year. Ten job satisfaction items were administered in each of the survey years 1979-1982 and eleven in 1988.

A short form of the QES scale developed by Robert Quinn appears to have better scale properties than the single global measure (Quinn and Mangione, 1973). The NLSY questions from which the 7-item Quinn job satisfaction scale is constructed are as follows:

NLSY Main Questionnaire Text	Dimension	NLSY Reference Numbers 1979-1982, 1988
1. You are given a chance to do the things you do best.	Challenge	R489., R2659., R4473., R7034., R25296.
2. The physical surroundings are pleasant.	Comfort	R490., R2660., R4474., R7035., R25297.
3. The pay is good.	Financial Rewards	R494., R2664., R4475., R7036., R25302.
4. Your co-workers are friendly.	Relations with Co-workers	R496., R2666., R4480., R7041., R25304.
5. Your supervisor is competent in doing the job.	Resource Adequacy	R497., R2667., R4481., R7042., R25305.
6. Take a different job?	Opportunity	R506., R2676., R4490., R7052.
8. How do you feel about your (current/most recent) job?	Global Job Satisfaction	R508., R2678., R4492., R7065., R25329.

Users should note that the sixth item on whether the respondent would take a different job if offered the opportunity was not administered in 1988. To construct the full seven-item scale, raw scores for each of the above items should be converted to z scores for each respondent. The scores can then be multiplied by 100 to remove decimals and combined to obtain an unweighted average of the seven z scores. The resulting scores for the satisfaction index are either positive or negative numbers that can be interpreted as deviations from the mean for the total sample of respondents in the survey.

References: Job Satisfaction.

Mangione, T.W. 1973. "The Validity of Job Satisfaction." Doctoral dissertation, The University of Michigan.

Quinn, Robert B. and T.W. Mangione. 1973. "Jobsat '72 and Its Kinfolk - A Brief Manual." Chapter 5 in The 1969-1970 Survey of Working Conditions: Chronicles of an Unfinished Enterprise. Ann Arbor: University of Michigan, Institute for Social Research, Survey Research Center.

Seashore, S. and T. Taber. 1975. "Job Satisfaction Indicators and Their Correlates." American Behavioral Scientist, 18: 333-368.

Family Employment & Income

(E2000. - E2222.51). These variables provide detailed reports of total income, earnings, and benefits received by the mother, her spouse, and family at each interview date. In addition to information on AFDC, child support, food stamps and welfare payments, there is an indicator of family poverty status for each survey year. Earnings variables include wages (including military), salary, commissions, and tips. Income measures include reports of amounts accrued from farm or nonfarm business, partnership or professional practice, and various sources of unearned income. In 1979, respondents under age 18 who were unmarried, not in college and living with parents were asked to report the following income components as a lump sum: farm, nonfarm business, savings, unemployment insurance and Supplemental Security Income (SSI). From 1980-1982 all respondents were asked about farm or nonfarm business income and savings as a single amount. Following that year, farm and nonfarm business income was reported as a lump sum but all other income components were listed separately. No question about veterans benefits was included in the 1979 schedule. In 1979 and 1980, alimony and child support were reported as a lump sum but were broken out separately in subsequent interview years. The sources of the inputs for these public support amounts are well documented in the current *NLS Users Guide*.

The following public assistance benefit source variables are included on the Child file as child-based variables: (1) total income from AFDC received by mother/spouse in the past calendar year (1979-1990); (2) total income from other public assistance received in the past calendar year (1979-1984); (3) total income from SSI received in the past calendar year (1985-1990); and (4) total income from food stamps received in the past calendar year (1979-1990). All other income variables that appear on the Child tape have been drawn directly from the main Youth file and can only be accessed on the Child CD-ROM from the female Youth record types.

To insure respondent confidentiality, income variables on the NLS main Youth file with values that exceed particular limits are truncated. For survey years 1979 through 1984, the upper limit on income variables was $75,000, and any amounts exceeding $75,000 were converted to $75,001. For surveys after 1984, the upper limit on income amounts was increased to $100,000 due to inflation and the advancing age of the cohort, and amounts exceeding $100,000 were converted to $100,001. Users interested in the precise derivation of the series of variables on Total Net Family Income and Family Poverty Status should consult Appendix 2 in the Supplemental NLSY Documentation (available from CHRR and discussed in Section 6 of this Handbook) which provides the code used to create the key income variables for each survey year for the NLS main Y file. Since Family Poverty Status for the year prior to the 1979 interview is not available on the NLS main Youth file, it does not appear on the Child file. It should be noted that the key income variables have relatively high non-response rates reflecting the fact that if critical income components were not reported, the overall key variable could not be determined.

Maternal CPS Employment Information.

(E2223. - E2693.). These variables from the Current Population Survey (CPS) section of the NLSY main questionnaire establish current labor force status, i.e. activity during most of the survey week. "CPS" characteristics follow the definitions utilized by the U.S. Department of Labor in their monthly employment and unemployment data collection effort - the Current Population Survey. The following CPS characteristics for each survey week are provided: employment status, hours worked for current/most recent job, occupation, industry, wages, benefits, and tenure. Job search behavior for those unemployed and reasons for not seeking employment for those out of the labor force are provided for all survey years 1979-1990. A series of detailed maternal job characteristics are available only for 1979 and 1982.

The variables in this series referred to as Employment Status Recodes at each interview date are measures of main labor force activity during the survey week and follow official government definitions. Appendix 1 of the Supplemental NLSY Documentation (see Section 6 of this Handbook) contains the program statements used each year to create this variable for the NLS main Youth file.

The codes used to describe occupation are defined in Attachment 3, Industry and Occupation Codes, of the Supplemental NLSY Documentation (see Section 6 of this Handbook). The 3-digit 1970 Census classifications were used to code respondent job information from 1979 to 1981. Beginning with the 1982 survey, 3-digit 1980 Census codes were used to classify a main respondent's most current or most recent job.

The Duncan Index that accompanies the mother's CPS occupation code is a socioeconomic index of status designed to give near optimal reproduction of a set of prestige ratings. All census occupations were assigned scores on the basis of their education and income distributions. The scores may be interpreted either as estimates of prestige ratings or simply as values on a scale of occupational socioeconomic status. The scale of 2-digit values ranges from 0 to 96. Campbell and Parker (1983) describe the Duncan SEI as "a measure designed to provide an optimally weighted composite to occupation-specific income and education such that it correlates maximally with independently obtained measures of occupational prestige. Since Duncan developed the original measure it has been updated using information from the 1970 Census and Siegel's update and extension of the North-Hatt prestige scores (Hauser and Featherman, Appendix B)." ... "The SEI was developed in order to get a single score for all occupations when the computational limits of social research made such a score highly desirable."

Maternal Job Characteristics.

The Maternal Job Characteristics variables (E2601. - E2621.) in this series are based on perceived job characteristics developed by Sims, Szilagyi, and Keller. The Job Characteristics Index (JCI) is an extension of the work first begun by Turner and Lawrence in 1965, which was preceded by an instrument developed by Hackman and Oldham using what is known as the Job Diagnostic Survey (JDS). Both scales measure job complexity. Comparisons of the JCI and JDS by Dunham et al., 1977 have shown that both scales tend to collapse to a one-dimensional scale measuring job-complexity. Therefore, the JCI was shortened by selecting one scale item which loaded strongly on each of the dimensions of job complexity shown to be important in earlier research. In their 1976 article, Sims et al. reported the necessary factor analysis scores used to obtain the abbreviated scale. The seven NLSY questionnaire items that comprise the shortened JCI scale are in Section 8, question 23, sub-questions 1-5, and questions 24A and C (R481. -R486. and R488.) for 1979; for 1982, the items are in Section 5, question 36, sub-questions 1-5, and questions 36B and 36D (R7054. - R7059. and R7061.). For details on the text of the NLSY main survey questions that comprise the shortened JCI, consult Appendix 4 - Job Characteristics Index 1979 and 1982 in the Supplemental NLS Youth Documentation (available from CHRR and discussed in Section 6 of this Handbook).

References: Family Employment & Income.

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Sims, Henry R., Andrew Szilagyi, and Robert Keller. 1976. "The Measurement of Job Characteristics." Academy of Management Journal 26, 2 (June): 195-212.

Turner, A.N. and P.R. Lawrence. 1965. Industrial Jobs and the Workers: An Investigation of Responses to Task Attributes. Boston: Harvard University Press.

Maternal Quarterly Employment History

(E2700. - E3110.). These variables describe the mother's quarterly (13-week interval) employment activity starting one year prior to each child's date of birth and continuing up through the first five years following the birth or the mother's 1990 interview date, whichever occurs first. These child-specific quarterly variables (see Table 4.3) are constructed from the NLS main Youth Work History data file which provides a week-by-week work record of the labor force attachment of each NLSY respondent from January 1, 1978 through the current main Youth survey date. Designed to be used primarily in conjunction with the main NLSY data files, the NLSY Work History data set contains several thousand variables organized around three primary week-by-week arrays: (1) "A" Array: Labor Force/Military Status Each Week Beginning January 1, 1978; (2) "HOUR" Array: Usual Hours Worked per Week at all Jobs Beginning January 1, 1978; and (3) "DUALJOB" Array: Job Numbers for Respondents Who Worked at More than One Job in Any Week Beginning January 1, 1978. Other variables on the tape include: (1) job-specific information for up to five jobs for each interview year, (2) active military service information, (3) key employment variables for last calendar year and since last interview, and (4) respondent information such as identification code, sampling information, birth dates, and interview dates. The quarterly maternal employment variables on the Child file represent a subset of the complete NLSY Work History file.

The following "child" work history variables (outlined in Table 4.3) are the maternal employment variables on the Child file that are constructed for each of up to 24 quarters (13-week interval) in the child's life: weeks and hours worked, number of jobs held, occupation, industry, whether wages are set by collective bargaining and whether job is government sponsored. The first five variables in the quarterly series refer to all jobs held by a mother, and the next twelve variables provide details on the duration and nature of the "main" job in each quarter, defined as the job at which the mother worked the most hours.

Only the 13-week intervals of a child's life that are complete within the 1/1/78 to 1990 interview date time frame received valid values. For example, children born prior to 1/1/78 were assigned missing values (-4) for all quarters that precede or overlap that date. Children born prior to 1/1/78 can be identified by their value of "0" on E2700. on "Week # of Date of Birth of Child from 1/1/78 to 1990 Interview Date of Mother."

Variables related to any quarter that was not complete as of (or followed) the mother's 1990 interview date are also assigned missing values.

Users should note that the NLS main Youth questionnaire defines respondents who are on vacation, on sick leave, on unpaid leave of less than one month, or on maternity leave of less than 90 days as still attached to an employer. Therefore, a mother with this kind of status would be considered working, even though she was on leave around the time of the birth of a child. For example, such a profile of continuous employment would show up as a "0" (i.e. continuous employment until the birth) or a very low value for variables E2701. and E2702., which describe the mother's work status before and after a child's birth even though the woman may not have actually been on the job the whole time. Recent work by Klerman and Leibowitz has clarified the substantial extent to which women who are counted as in the labor force immediately preceding or following a birth frequently are not on the job. In some instances they are on paid vacation but more often are on unpaid leave (Klerman and Leibowitz, 1993). Patterns of labor force retention and paid and unpaid leave vary by characteristics such as education and occupational status. Thus, labor supply analyses for the interval immediately preceding and following a birth need to consider possible retention bias. This potential problem is limited to analyses incorporating the interval immediately surrounding the birth.

Missing Values. One additional caution regarding variable construction should be noted: missing values for the Child work history variables do not consistently reflect the meanings normally attached to "skips" or missing values in the NLSY data. A negative value for these variables simply means that one or more of the inputs critical to the construction of the variable was missing. Users should not use the negative values to differentiate among the types of missing categories or to discriminate children of mothers not interviewed in a particular quarter from children whose mothers had valid skips or invalid skips on the inputs to a created variable.

The main NLSY Workhistory file exists as a separate data set, available on tape or a separate CD-ROM. Documentation for the complete NLSY Work History data file, available both in hardcopy and as print files on the CD-ROM, includes: (1) a description of and codes for each variable on the workhistory data file; (2) a discussion of the PL/I program logic and procedures; (3) a listing of the PL/I program that created the file; (4) the Workhistory record layout and condescriptives; (5) format specification; and (6) a description of procedures involved in linking employers through contiguous survey years. Users interested in these data should also consult the section on NLSY Workhistory Documentation in the *NLS Handbook* and the "Work Experience" section of the current *NLS Users Guide* which explains employer linkages, tenure, age effects, and other aspects of the longitudinal employment record.

References: Maternal Work History.

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Research Using NLSY Data on Maternal Employment, Fertility & Children: A Bibliography. 1993. Updated periodically. Columbus, Ohio: The Ohio State University, Center for Human Resource Research.

Child Prenatal Health History

(E3200. - E3279.10). This set of variables describes the mother's health and details prenatal care during the pregnancy leading to the child's birth. Variables include degree of alcohol use, smoking, exposure to x-rays, prenatal visits, mother's weight at the beginning and end of the pregnancy, weight gain during pregnancy, and use of sonograms, amniocentesis, and dietary supplements during pregnancy.

The notes for the prenatal care entries in the Child Codebook refer only to the 1984 prenatal care "R" reference numbers from the NLSY main file. This set of reference numbers does not represent the complete set of inputs but rather illustrates the types of variables extracted from the mother's longitudinal record since 1983 to construct each child's prenatal history. For example, only prenatal care information for the child who was the youngest child as of the 1983 interview was actually reported in that year. In subsequent years women were asked about all pregnancies that occurred since the last interview date. Starting in 1988, these reports are solicited every second survey year. Prenatal care for children born prior to 1983 who were not the youngest in 1983 was retrospectively asked in 1986. The x-ray questions, however, were not asked in the 1986 retrospective prenatal health section or in the 1986 prenatal health update (see pages 10-99 to 10-104 and pages 10-116 to 10-118 of Section 10: Fertility, 1986 NLS main Youth Questionnaire). In addition, sonogram, amniocentesis, and diet questions were not asked in the 1986 prenatal health update (see pages 10-116 to 10-118 of Section 10: Fertility, NLS main Youth

Questionnaire, 1986). Users should consult specific main questionnaires and Mott and Quinlan (1991), listed below, to better understand which year yielded information for a specific universe of children.

Child Postnatal Health History

(E3280. - E3392.10). Information on gestation, birth weight, infant feeding practices, illnesses and well baby care during the period immediately following birth through the first year of life were taken from the mother's longitudinal record and attached to each child.

Only the 1984 NLSY main file reference numbers are noted in the Child Codebook for postnatal care variables. As mentioned above in the discussion of prenatal care information, these codebook notes illustrate the types of inputs drawn from the mother reports since 1983 of postnatal care for all children. Users should review the Fertility Section of the main Youth questionnaire for each of these years to see when certain questions were asked for specific children of specific ages. For example, while birth weight was reported in 1983 for all children born as of that date, certain feeding questions were applicable only to a subset of children. Feeding questions about solid foods which may have been inappropriate for an infant in 1983, for example, were updated in 1984 or 1985, depending on the developmental stage of the child at each interview date. Users should note that only the subset of immunization questions most comparable across survey years was included in the Child file. Also, unlike the series of child illness questions asked of the mother starting in the 1984, the 1983 interview schedule refers to illnesses experienced by the youngest child in the first year only if the child had been hospitalized (see Section 10, Q. 40A and B, pages 10-105 of the 1983 NLS main Youth questionnaire). A good source for users interested in an overview of maternal and child health information related to pregnancy and birth in the NLSY is the report by Mott and Quinlan (1991), listed below and available at no charge from CHRR.

Quality of the Pre/Postnatal Data.

In the process of updating the current set of eight variables that indicate when the child began cow's milk and solid food, CHRR discovered a relatively high number of cases with missing information for children born between the 1986 and 1988 mother interview dates. This high level of invalid response, caused by a data entry problem, remains on the file but does not appear to be related to any particular child characteristic.

A second caveat relates to the postnatal information available for children who are less than a year old when first reported by the mother in the Fertility section of the main NLSY questionnaire. Users of the postnatal data should be aware that children who have not completed one year of life at the time of the mother's first pre/postnatal report will have partial information on illnesses, hospitalization, sick-care, and well-care in the first year of life, since these items, by virtue of the child's age, are incomplete at first report and are not updated at the subsequent interview date. This censoring effect does **not** apply to the questions on infant feeding.

In general, CHRR evaluations of the birth weight data have found very good comparability between NLSY and official Vital Statistics birth weight data. The match appears less satisfactory when comparing gestation data from the two sources. When collecting most gestation data, the potential for error is considerable because of the uncertainty of many women regarding the precise beginning of their pregnancy.

Missing Values. While uniform distinctions have not always been made between valid missing values (-4) and invalid skips (-3, -2, -1) in this series, most variables in the pre/postnatal series reflect the missing values assigned the original NLS Youth Fertility items on which the constructed items were based. Since the Child data set contains a comprehensive set of variables from this section of the NLSY data, those wishing to distinguish types of missing values can use the various screening questions in combination with more detailed follow-up items to determine which questions apply to which universes of children.

References: Pre/Postnatal Health.

Mott, Frank L. and Stephen V. Quinlan. 1991. Maternal-Child Health Data from the NLSY: 1988 Tabulations and Summary Discussion. (October). Columbus, Ohio: The Ohio State University, Center for Human Resource Research.

Research Using NLSY Data on Child Health: A Bibliography. 1993. Updated periodically. Columbus, Ohio: The Ohio State University, Center for Human Resource Research.

Research using NLSY Birthweight Information.

The NLSY Child database contains information on numerous aspects of both maternal and child health, as well as other important social and demographic indicators, providing researchers with a unique opportunity to explore complex issues such as the determinants and consequences of birth weight. Important information about each pregnancy, such as maternal weight gain, smoking and drinking behaviors, and use of prenatal care, can be linked with other potentially influential factors such as family background, age, race and socio-economic status, in attempts to understand the processes that influence birth weight.

The NLSY data have been used to demonstrate the effects of maternal health-related characteristics and behaviors on birth weight outcomes. Results suggest a high face validity for the NLSY birth weight inputs. Cramer (1987), using data through 1984 from white and nonblack Hispanic mothers, found that smoking, low weight for height, delaying prenatal care, and low weight gain were significantly negatively related to birth weight. Also using data through 1984, Rosenzweig and Wolpin (1990) found that smoking marijuana has a significant negative effect on birth weight, especially during the first trimester of pregnancy. Furthermore, smoking marijuana during all three months of the first trimester has a much greater negative impact than smoking fewer than all three months (Rosenzweig and Wolpin, 1990). In a study using data through 1986 and limited to first births, Abma and Mott (1990) found that women engaging in one risk factor (smoking, drinking or delaying prenatal care) had the highest percent of low birth weight babies, followed by women engaging in more than one risk factor. Researchers have also used the NLSY data to explore variations by racial group in the rate of occurrence of low birth weight. Ketterlinus, Henderson, and Lamb (1990), using data through 1986 for both black and white primiparous women, found race to be a significant predictor of low birth weight. Using data on all births occurring from 1979 to 1986, Cramer, Bell and Vaast (1990) found that even controlling for socio-economic, demographic and proximate variables, blacks and Puerto Ricans still had significantly lower birth weight babies than whites. However, some researchers have suggested that race per se is not causal in determining low birth weight and have explored other mechanisms involved. Abma and Mott (1990) found that when risk factors (smoking, drinking, and delaying prenatal care) and maternal AFQT scores are included in multivariate analyses that the effect of race on low birth weight becomes insignificant.

In an explicit attempt to explore the linkages between race and family income and drawing on data from all births to non-Hispanic black and white women between 1979 and 1988, Starfield, et al. (1991) found that poor black and white infants are at similar risk levels for low birth weight, but nonpoor black infants are at much greater risk of being low birth weight than nonpoor white infants, controlling for known risk factors. Furthermore, shifts into and out of poverty affected the risk of low birth weight for whites but not for blacks (Starfield, et al., 1991). In another attempt to look at the linkages between poverty and race, Currie and Cole (1992), basing their analysis on children born between 1979 and 1988, found that AFDC recipients are both more likely to be black and more likely to have low birth weight infants. However, they argue that this connection is not causal because the women most likely to be on AFDC also are more likely to have other characteristics associated with low birth weight (i.e., delaying prenatal care, smoking or drinking).

Using data through 1986 for both black and white primiparous women, Ketterlinus, Henderson, and Lamb (1990) found that the youngest and oldest women were the most likely to have low birth weight babies. Other researchers have demonstrated that the link between maternal age and low birth weight is complicated by other social factors. Identifying sisters from the NLSY who had experienced births by 1986 and at different ages, Geronimus and Korenman (1991) found that, when comparing sisters, teen mothers are slightly less likely to have low birth weight babies. They also found that teen mothers from disadvantaged families were more likely to have low birth weight babies than teen mothers from advantaged families, but that older mothers from disadvantaged families were more likely to have low birth weight babies than teen mothers from disadvantaged families (Geronimus and Korenman, 1991). Using data on all births through 1988, Rosenzweig and Wolpin (1992) identified sister pairs with multiple births to construct a model of birth weight that controls for both instrumental and heritable components of birth weight. They conclude that, controlling for these components, teenage childbearing might have a positive effect on birth weight (Rosenzweig and Wolpin, 1992).

Other issues that might affect birth weight have been explored using these data. Marsiglio and Mott (1988), using data through 1984, suggest that wantedness has only a weak indirect effect on birth weight, through the significant effect wantedness has on seeking early prenatal care. Basing their analysis on all women with single, live births prior to 1983 for whom employment data were available, Homer, Berresford, James, Siegel, and Wilcox (1990) found that, controlling for sociodemographic, behavioral and obstetrical characteristics, women working in high-exertion jobs were five times more likely to have pre-term, low birth weight babies that women in low exertion jobs. In a related analysis, Homer, James and Siegel (1990) found that women in psychologically stressful jobs who did not want to be working had babies with significantly lower birth weights.

Low birth weight has also been used as a control variable in research looking at child outcomes (i.e., Moore and Snyder, 1991; Menaghan and Parcel, 1992) and as an indicator of poor health in infancy (i.e., Mott, 1991). Using 1986 data on children aged four through eleven, Weitzman, Gortmaker and Sobol (1992) found that very low birth weight was significantly related to later behavior problems, controlling for a wide variety of other factors (i.e., age, sex, race, family structure and income, and maternal characteristics) that could influence levels of behavior problems.

References: Birthweight.

Abma, Joyce C. and Frank L. Mott. 1990. "Is There a 'Bad Mother' Syndrome? Evidence of Overlapping High Risk Behavior During Pregnancy Among a National Cross-section of Young Mothers." Presented: Annual Meetings of the Population Association of America, Toronto.

Cramer, James C. 1987. "Family Structure and Infant Health." Presented: Annual Meetings of the Population Association of America, Chicago.

Cramer, James C., Katrina Bell and Katherine Vaast. 1990. "Race, Ethnicity, and the Determinants of Low Birthweight in the U.S." Presented: NICHD Workshop on Social and Demographic Research on Infant Mortality and Low Birthweight, Bethesda, Maryland.

Currie, Janet and Nancy Cole. 1992. "Welfare and Child Health: The Link Between AFDC Participation and Birth Weight." Working Paper #92-9. Cambridge: MIT, Department of Economics.

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Ketterlinus, Robert D., Sandra Henderson and Michael E. Lamb. 1990. "Maternal Age, Sociodemographics, Prenatal Health, and Behavior: Influences on Neonatal Risk Status." Journal of Adolescent Health Care 11, 5 (September): 423-431.

Marsiglio, William and Frank L. Mott. 1988. "Does Wanting to Become Pregnant with a First Child Affect Subsequent Maternal Behaviors and Infant Birth Weight?" Journal of Marriage and the Family 50 (November): 1023-1036.

Menaghan, Elizabeth G. and Toby L. Parcel. 1992. "Social Sources of Stability and Change in Children's Home Environments: Effects of Parental Occupational Experiences and Family Conditions." Presented: The RAND Conference on Economic and Demographic Aspects of Intergenerational Relations, Santa Monica, March 20-22.

Moore, Kristin A. and Nancy O. Snyder. 1991. "Cognitive Attainment Among Firstborn Children of Adolescent Mothers." American Sociological Review 56 (October): 612-624.

Mott, Frank L. 1991. "Developmental Effects of Infant Care: The Mediating Role of Gender and Health." Journal of Social Issues 47, 2 (Summer): 139-158.

Rosenzweig, Mark R. and Kenneth I. Wolpin. 1990. "The Effect of the Timing and Frequency of Marijuana Use on Fetal Growth Based on Sibling Birth Data." Working Paper. University of Minnesota.

Rosenzweig, Mark R. and Kenneth I. Wolpin. 1991. "Sisters, Siblings and Mothers: The Effects of Teenage Childbearing on Birth Outcomes." Working Paper (November). University of Minnesota.

Starfield, Barbara, Sam Shapiro, Judith Weiss, Kung-Yee Liang, et al. 1991. "Race, Family Income, and Low Birth Weight." American Journal of Epidemiology 134, 10 (November): 1167-1174.

Weitzman, Michael, Steven Gortmaker and Arthur Sobol. 1992. "Maternal Smoking and Behavior Problems of Children." Pediatrics 90, 3 (September): 342-349.

Child Care

(E3500. - E3748.). A range of both cross-sectional (past four weeks) and retrospective child care information from several survey years is included in this series of variables. The mother-report child care sections from the 1986 and 1988 main NLSY surveys provide the types of current child care arrangements used for each child in the household, the overall family expenditure for current care, and a retrospective of child care experiences during the first three years of life for all children (of at least 1 year of age) born to the respondent. These cross sectional child care variables are identified by E3500. - E3563., and E3591. - E3748. Variables E3564. - E3590. provide a cumulative updated profile through 1988 of the child care experiences in the first three years of life for children of at least one year of age. Child care information was not collected in the 1990 survey round but was updated in 1992. Note that children who were less than three years old in 1988 will not have a complete 3-year child care retrospective for the first three years of life until the release of the 1992 Child Data.

Child care information taken directly from the 1984 and 1985 NLSY main surveys (E3591. - E3748.) describes child care arrangements used in the past four weeks for the youngest child by parents who were either employed, in school, or in training at the survey date. Location and type of primary and secondary care, hours of use, nature of payment and grandmother utilization are reported in 1984. Location, type, payment, detail on group arrangements, and hypothetical care are available for 1985. In both years, limited information on location and type of care are reported by respondents who are not currently employed but who have an employed spouse.

The retrospective information collected in 1986 and the current child care information collected between 1984 and 1988 relate to different universes of children and utilize different child care definitions. These distinctions are clarified further in the topical section titled "Child Care" in the current *NLS Users Guide*. Additional child care information was also collected in the 1982 and 1983 main NLSY surveys. The child care data from these two years are not included in the tape version of the NLSY Child file but can be found on the NLS main Youth file (CD-ROM Youth Record Type CHILDCAR). A bibliography (listed below) that cites research based on the NLSY child care data is available from CHRR.

Users of the CD-ROM printed documentation should note that, even though the child care variables drawn directly from the mother's record are identified by NLS Youth cross reference "R" numbers in the printed CD-ROM Numeric listing, the entire set of child care variables mentioned above has been loaded into the child-based Record Type CHDCARE. Both the Record Type name and the main Youth cross reference ("R") number appear in the codebook entries on the CD-ROM itself while the Youth cross reference number and the NLSY question number appear in the printed CD-ROM codebook documentation.

Missing Values. Child care variables drawn from the mother's cross-sectional record for years 1983, 1984, 1985, 1986, and 1988 retain the full range of missing values originally assigned to the Youth file in those years. The retrospective variables (E3564. - E3590.) have no noninterviews assigned since the inputs do not necessarily come from any one interview year.

References: Child Care.

Research Using NLSY Child Care Data: A Bibliography. 1993. Updated periodically. Columbus, Ohio: The Ohio State University, Center for Human Resource Research.

The Child Assessment Data

The Child Assessment Raw Item Data.

(E4021. - E5677.; E5910. - E7864.; E8100. - E9895.) The Child Assessment Raw Item files contain the individual item responses to the various assessment instruments administered in each survey year. References to the tape version of these items can be found in the Raw Supplement Item Indices and Codebook documentation for the appropriate years. The number of cases on each of the magnetic tape files reflects only the children interviewed in the relevant year. Each child's sequential identification number appears at the beginning of each file for use in merging with other child files. The Child Raw Item data files on magnetic tape are accompanied by an electronic version of the appropriate numeric indices and a codebook that documents the distributions of these items. CD-ROM users will find these individual items in the CHDSUP and MOMSUP Child record types for the appropriate year (see the discussion of the Child CD-ROM data in Section 6).

The data on each Raw Item file appear exactly as collected by NORC and are not always consistent with the assessment data and scores on the Child Data file. Items on the latter file have undergone a series of internal consistency checks whereas the data on the Raw Item files have not. Given the many currently undefined uses of the data, it was considered preferable to release these files of unchanged assessment items so that individual researchers could have the opportunity to alter the original data in a manner consistent with their needs. While all HOME items appear in their original form on the file, the dichotomous versions of the items used in scoring are not included. Each of the Child assessments is discussed in detail in Section 5.

Missing Values. The valid missing values (designating those children not age eligible) and the invalid skips (interviewer error, "don't knows" and refusals) have been collapsed into a "-6" category on the Raw Item assessment files. (Note that this procedure differs from the assignment of the constructed assessment scores, discussed in detail in Section 5 of this Handbook.) A value of "-5" was assigned to children not interviewed in a particular assessment year.

Documentation available when these item files are ordered consists of a codebook that identifies each variable, its question number, and response frequencies as well as copies of the Child and Mother Supplement interview schedules. Those exploring the applicability of the child assessments for their research needs can obtain copies of the relevant interview schedules (the Mother and Child Supplements as well as the relevant NLSY questionnaires) from the NLS User Services Offices. Ordering information is provided in Section 6 of this Handbook.

Pre-teen/Teen Behaviors & Attitudes.

(E9327. - E9486.) For children 10 years of age and older, information was collected during the 1988, 1990 and 1992 surveys on a variety of factors including child-parent interaction, child home responsibilities, attitudes towards school, time-use, employment, religious attendance, alcohol and drug use, sexual activity, life expectations, dating and friendship patterns, and other related attitudes and behaviors. A special Child Self-Administered supplement first developed in 1988, is used to collect this information.

Child Assessment Measures.

(E5700. - E5812.; E7900. - E8007.; E9900. - E9999.). Assessments of the cognitive, socioemotional and physical development of the children of the mothers of the NLSY as well as measures of the quality of the child's home environment are included in the Child data. The assessment measures vary depending on the age of the child. Cognitive materials for the youngest children include a body parts identification (1986, 1988), a memory for locations test (1986, 1988), and a verbal memory subscale from the McCarthy. The older children have scores from the PIAT Math and Reading subtests, the Peabody Picture Vocabulary Test-Revised, and the Memory for Digit Span subscale of the Wechsler. Assessments that evaluate the social and emotional development of children include temperament scales for children under age seven, a Motor and Social Development Scale for children under age four, the Behavior Problems Index for children four years and older, and a perceived self competence scale for children eight years and older. These assessments are discussed in detail in Section 5. A comprehensive bibliography of research using the NLSY Child assessment data (cited below) is available at no charge from CHRR.

The 1986, 1988, and 1990 child sampling weights, which adjust for child attrition between 1979 and 1990, appear as E5812., E8007., and E9999. respectively in the Child file documentation. For a discussion of the creation of these weights and their application in analysis, the user should consult Section 3 of this Handbook (NLSY Mother and Child Samples) and the section on Survey Methodology in the current *NLS Handbook*.

References: Child Assessments.

Research Using NLSY Child Assessment Data: A Bibliography. 1993. Updated periodically. Columbus, Ohio: The Ohio State University, Center for Human Resource Research.

Table 4.1 The NLSY 1979-90 Child Data: A Summary

The following is a list of the contents of the 1979-90 NLSY Child database, available to the public both on magnetic tape and on compact disc (CD-ROM). While all the variables described below are included on the tape version of the dataset, only a subset appear as child-based items on the Child CD-ROM. The relevant CD-ROM Child Record Type name is noted in parentheses after each topic heading as well as the total number of constructed "child-based" variables found in each category. Subheadings preceded by an asterisk (*), e.g. Maternal Family Background under FAMILY BACKGROUND (FAMBKGN), indicate groups of variables drawn from the mother's record, converted to child-specific variables and placed on the tape version of the Child file. CD-ROM users can create these constructs by (1) accessing the child database, (2) moving to the Youth database and extracting items from the mother's file, and (3) using the CD feature that attaches them to the appropriate children.

CHILD BACKGROUND (CHDBKGN: 117 items)
- Child linkage variables
- Child demographic variables
- Child usual residence 1979-90
- Father contact 1984-88

FAMILY BACKGROUND (FAMBKGN: 37 items)
- Child family background
- *Maternal family background (mostly drawn from NLSY 1979)
- *Maternal marital status (NLSY created variables)
- *Marital transitions 1979-90
- *Maternal marital history 1979-90
- *1982 Maternal spouse information
- Child family education 1979-90

MATERNAL HH COMPOSITION 1979-90 (MHHCOMP: 394 items)
- Number of HH members in maternal HH; total; by age ranges
- Number of adults and children maternal HH
- Work status and education of adults in maternal HH in last year
- Age of youngest HH member & family member in HH
- Number of family members & family units in maternal HH
- Age of youngest child of mother in HH
- Presence, age, education of spouse or partner of mother in HH
- Presence of grandmother/grandfather in maternal HH
- Number of biological & step siblings of mother in maternal HH

MATERNAL WELL-BEING (MOMWELL: 8 items)
- Maternal health 1979-90
- *Maternal deviance
- *Maternal attitudes

FAMILY EMPLOYMENT & INCOME (EMPINC: 184 items)
- Maternal CPS info 1979-90
- *Maternal job characteristics
- *Spouse employment 1979-90
- *Child family income 1979-90
- *Family public assistance 1979-90

Table 4.1 The NLSY 1979-90 Child Data: A Summary (continued)

QUARTERLY MATERNAL WORK HISTORY (WORKHIST: 411)
- Week # of date of birth of child from 1/1/78 to current maternal interview date
- # of weeks before birth of child mother left employment
- # of weeks after birth of child mother began employment
- # of jobs held 4 quarters prior/20 quarters post birth
- Weeks worked at all jobs 4 quarters prior/20 quarters post birth
- # of weeks in military service, 4 quarters prior/20 quarters post birth
- Hours worked at all jobs 4 quarters prior/20 quarters post birth
- Earnings at all jobs 4 quarters prior/20 quarters post birth
- Weeks worked at main job, 4 quarters prior/20 quarters post birth
- Hours worked per day at main job, 4 quarters prior/20 quarters post birth
- Hours worked per week at main job, 4 quarters prior/20 quarters post birth
- Industry of main job, 4 quarters prior/20 quarters post birth
- Occupation at main job, 4 quarters prior/20 quarters post birth (70 census 3 digit)
- Occupation at main job, 4 quarters prior/20 quarters post birth (Duncan index)
- Class of worker at main job, 4 quarters prior/20 quarters post birth
- Rate of pay at main job, 4 quarters prior/20 quarters post birth
- Time unit of pay at main job, 4 quarters prior/20 quarters post birth
- Hourly wage at main job, 4 quarters prior/20 quarters post birth
- Collective bargaining set main job wages?; 4 quarters prior/20 quarters post birth
- Is job government-sponsored? main job, 4 quarters prior/20 quarters post birth

PRE/POSTNATAL CARE (NATAL: 194 items)
- Child prenatal care
- Child postnatal care
- Infant Health in the first year of Life

CHILD CARE (CHDCARE: 249 items)
- 1984 child care
- 1985 child care
- 1986 current child care
- 1988 current child care
- 1990 current child care
- Retrospective child care

1986 CHILD SUPPLEMENT ITEMS (CHDSUP86: 1270 items)
- Child Background (age, school enrollment, grade)
- Child Health (limitations, menses, behavioral/emotional problems, medication, height, weight)
- Child Supplement Assessments:
    - Body Parts
    - Memory for Location
    - Verbal Memory
    - Self-Perception Profile for Children
    - Digit Span
    - PIAT Math
    - PIAT Reading Recognition
    - PIAT Reading Comprehension
    - PPVT-R

Table 4.1 The NLSY 1979-90 Child Data: A Summary (continued)

1986 CHILD SUPPLEMENT ITEMS (CHDSUP86: 1270 items)(continued)
- Interviewer Evaluation of Testing Conditions (child attitudes, vision/hearing/health problems, child shyness at end of session, interferences/distractions, test site)
- Interviewer Observations of Home Environment
- Caretaker Locating Information

1986 MOTHER SUPPLEMENT ITEMS (MOMSUP86: 270 items)
- Type of interview
- Child ID (unedited)
- Mother Supplement date of administration (unedited)
- Age at administration of Mother Supplement (unedited)
- Relationship of respondent to child
- HOME items
- Temperament items
- Motor & Social Development items
- BPI items
- Interviewer ID
- Child age at date of Mother Supplement (constructed variable)

1986 CHILD ASSESSMENT SCORES (ASSESS86: 115 items)
- HOME Inventory scores
- Temperament scores
- Motor & Social Development scores
- Behavior Problems Index scores
- Child Health items (including height, weight)
- Body Parts scores
- Memory for Location scores
- Verbal Memory scores
- Self-Perception Profile scores
- Digit Span scores
- PIAT Math scores
- PIAT Reading scores
- PPVT-R scores
- PPVT-R Age in months
- Child Sampling Weight

1988 CHILD SUPPLEMENT ITEMS (CHDSUP88: 1491 items)
- Child Background (age, school enrollment, grade, Headstart experience)
- Child Health (limitations, accidents, injuries, hospitalization, menses, behavioral/emotional problems, medication, height, weight)
- Child Supplement Assessments:
  - Body Parts
  - Memory for Location
  - Verbal Memory
  - Self-Perception Profile for Children
  - Digit Span
  - PIAT Math
  - PIAT Reading Recognition
  - PIAT Reading Comprehension
  - PPVT-R

Table 4.1 The NLSY 1979-90 Child Data: A Summary (continued)

1988 CHILD SUPPLEMENT ITEMS (CHDSUP88: 1491 items)(continued)
- Interviewer Evaluation of Testing Conditions (child attitudes, vision/hearing/health problems, child shyness at end of session, interferences/distractions, test site, language used in administration)
- Interviewer Observations of Home Environment
- Caretaker Locating Information
- Child Self-Administered Supplement (age 10 years +)

1988 MOTHER SUPPLEMENT ITEMS (MOMSUP88: 359 items)
- Type (mode) of interview
- Child ID & DOB (unedited)
- Relationship of respondent to child
- HOME items
- Temperament items
- Motor & Social Development items
- BPI items
- School Background
- Language in which supplement administered
- Child age at date of Mother Supplement

1988 CHILD ASSESSMENT SCORES (ASSESS88: 110 items)
- HOME Inventory scores
- Temperament scores
- Motor & Social Development scores
- Behavior Problems Index scores
- Body Parts scores
- Memory for Location scores
- Verbal Memory scores
- Self-Perception Profile scores
- Digit Span scores
- PIAT Math scores
- PIAT Reading scores
- PPVT-R scores
- PPVT-R Age in months
- Child Sampling Weight

1990 CHILD SUPPLEMENT ITEMS (CHDSUP90: 1412 items)
- Child Background (age, school enrollment, grade, Headstart experience)
- Child Health (limitations, accidents, injuries, hospitalization, menses, behavioral/emotional problems, medication, height, weight)
- Child Supplement Assessments:
  - Verbal Memory
  - Self-Perception Profile for Children
  - Digit Span
  - PIAT Math
  - PIAT Reading Recognition
  - PIAT Reading Comprehension
  - PPVT-R

Table 4.1 The NLSY 1979-90 Child Data: A Summary (continued)

1990 CHILD SUPPLEMENT ITEMS (CHDSUP90: 1412 items)(continued)
- Interviewer Evaluation of Testing Conditions (child attitudes, vision/hearing/health problems, child shyness at end of session, interferences/distractions, test site, language used in administration)
- Interviewer Observations of Home Environment

- Child Self-Administered Supplement (age 10 years +)

1990 MOTHER SUPPLEMENT ITEMS (MOMSUP90: 384 items)
- Type (mode) of interview
- Child ID & DOB (unedited)
- Relationship of respondent to child
- HOME items
- Temperament items
- Motor & Social Development items
- BPI items
- School Background
- Language in which supplement administered
- Child age at date of Mother Supplement

1990 CHILD ASSESSMENT SCORES (ASSESS90: 100 items)
- HOME Inventory scores
- Temperament scores
- Motor & Social Development scores
- Behavior Problems Index scores
- Verbal Memory scores
- Self-Perception Profile scores
- Digit Span scores
- PIAT Math scores
- PIAT Reading scores
- PPVT-R scores
- PPVT-R Age in months
- Child Sampling Weight

Table 4.2 NLS Youth: Father Presence/Visitation Variables, 1989 and 1990

Reference Number	Variable Description	Question Number	Year	Record Type
R29559.00	FATHER/MOTHER OF 1ST CHILD LIVE IN HOUSEHOLD?	Q1862	1989	BIRTHR89
R29562.00	FATHER/MOTHER OF 2ND CHILD LIVE IN HOUSEHOLD?	Q1866	1989	BIRTHR89
R29565.00	FATHER/MOTHER OF 3RD CHILD LIVE IN HOUSEHOLD?	Q1870	1989	BIRTHR89
R29568.00	FATHER/MOTHER OF 4TH CHILD LIVE IN HOUSEHOLD?	Q1912	1989	BIRTHR89
R29571.00	FATHER/MOTHER OF 5TH CHILD LIVE IN HOUSEHOLD?	Q1916	1989	BIRTHR89
R29574.00	FATHER/MOTHER OF 6TH CHILD LIVE IN HOUSEHOLD?	Q1920	1989	BIRTHR89
R29577.00	FATHER/MOTHER OF 7TH CHILD LIVE IN HOUSEHOLD?	Q1924	1989	BIRTHR89
R32559.00	FATHER OF 1ST CHILD LIVE IN HOUSEHOLD?	Q5529	1990	BIRTHR90
R32560.00	FATHER OF 1ST CHILD LIVING?	Q5531	1990	BIRTHR90
R32561.00	DISTANCE FATHER OF 1ST CHILD LIVES FROM R	Q5533	1990	BIRTHR90
R32562.00	TIMES IN PAST 12 MOS 1ST CHILD HAS SEEN FATHER	Q5535	1990	BIRTHR90
R32577.00	FATHER OF 2ND CHILD LIVE IN HOUSEHOLD?	Q5541	1990	BIRTHR90
R32578.00	FATHER OF 2ND CHILD LIVING?	Q5543	1990	BIRTHR90
R32579.00	DISTANCE FATHER OF 2ND CHILD LIVES FROM R	Q5545	1990	BIRTHR90
R32580.00	TIMES IN PAST 12 MOS 2ND CHILD HAS SEEN FATHER	Q5547	1990	BIRTHR90
R32595.00	FATHER OF 3RD CHILD LIVE IN HOUSEHOLD?	Q5553	1990	BIRTHR90
R32596.00	FATHER OF 3RD CHILD LIVING?	Q5555	1990	BIRTHR90
R32597.00	DISTANCE FATHER OF 3RD CHILD LIVES FROM R	Q5557	1990	BIRTHR90
R32598.00	TIMES IN PAST 12 MOS 3RD CHILD HAS SEEN FATHER	Q5559	1990	BIRTHR90
R32613.00	FATHER OF 4TH CHILD LIVE IN HOUSEHOLD?	Q5565	1990	BIRTHR90
R32614.00	FATHER OF 4TH CHILD LIVING?	Q5567	1990	BIRTHR90
R32615.00	DISTANCE FATHER OF 4TH CHILD LIVES FROM R	Q5569	1990	BIRTHR90
R32616.00	TIMES IN PAST 12 MOS 4TH CHILD HAS SEEN FATHER	Q5571	1990	BIRTHR90
R32631.00	FATHER OF 5TH CHILD LIVE IN HOUSEHOLD?	Q5609	1990	BIRTHR90
R32632.00	FATHER OF 5TH CHILD LIVING?	Q5611	1990	BIRTHR90
R32633.00	DISTANCE FATHER OF 5TH CHILD LIVES FROM R	Q5613	1990	BIRTHR90
R32634.00	TIMES IN PAST 12 MOS 5TH CHILD HAS SEEN FATHER	Q5615	1990	BIRTHR90
R32649.00	FATHER OF 6TH CHILD LIVE IN HOUSEHOLD?	Q5621	1990	BIRTHR90
R32650.00	FATHER OF 6TH CHILD LIVING?	Q5623	1990	BIRTHR90
R32651.00	DISTANCE FATHER OF 6TH CHILD LIVES FROM R	Q5625	1990	BIRTHR90
R32652.00	TIMES IN PAST 12 MOS 6TH CHILD HAS SEEN FATHER	Q5627	1990	BIRTHR90
R32667.00	FATHER OF 7TH CHILD LIVE IN HOUSEHOLD?	Q5633	1990	BIRTHR90
R32668.00	FATHER OF 7TH CHILD LIVING?	Q5635	1990	BIRTHR90
R32669.00	DISTANCE FATHER OF 7TH CHILD LIVES FROM R	Q5637	1990	BIRTHR90
R32670.00	TIMES IN PAST 12 MOS 7TH CHILD HAS SEEN FATHER	Q5639	1990	BIRTHR90
R32685.00	FATHER OF 8TH CHILD LIVE IN HOUSEHOLD?	Q5645	1990	BIRTHR90

Note: Summary child-based "father" variables for 1984-1988 are on the NLSY Child file; see E81.- E101.

Table 4.3 NLSY Child Data: Sequence of Maternal Workhistory Variables

Week # of date of birth of child from 1/1/78 to current maternal interview date
# of weeks before birth of child mother left employment
# of weeks after birth of child mother began employment
# of jobs held 4 quarters prior/20 quarters post birth
Weeks worked at all jobs 4 quarters prior/20 quarters post birth
# of weeks in military service, 4 quarters prior/20 quarters post birth
Hours worked at all jobs 4 quarters prior/20 quarters post birth
Earnings at all jobs 4 quarters prior/20 quarters post birth
Weeks worked at main job, 4 quarters prior/20 quarters post birth
Hours worked per day at main job, 4 quarters prior/20 quarters post birth
Hours worked per week at main job, 4 quarters prior/20 quarters post birth
Industry of main job, 4 quarters prior/20 quarters post birth
Occupation at main job, 4 quarters prior/20 quarters post birth (70 census 3d)
Occupation at main job, 4 quarters prior/20 quarters post birth (duncan index)
Class of worker at main job, 4 quarters prior/20 quarters post birth
Rate of pay at main job, 4 quarters prior/20 quarters post birth
Time unit of pay at main job, 4 quarters prior/20 quarters post birth
Hourly wage at main job, 4 quarters prior/20 quarters post birth
Collective bargaining set main job wages?; 4 quarters prior/20 quarters post birth
Is job government-sponsored? main job, 4 quarters prior/20 quarters post birth

5

THE NLSY CHILD ASSESSMENTS

This section of the Handbook begins with a brief discussion of the criteria utilized in selecting the NLSY Child assessments, followed by general information essential for all users. Then, each of the child assessments administered in the 1986 through 1990 NLSY Child survey rounds is described in detail. Information is provided about the reliability and validity of the assessments available from other sources. Much of the section is devoted to descriptive analyses of the assessment data, including tabular information relating the distribution of the various outcome scores to a number of child and maternal characteristics. Correlations between the various assessments, internally developed reliability coefficients, and a discussion of potential biases due to selective attrition are also included. Finally, the section highlights the nuances of the various assessments, some of the data limitations that have become evident and specific information about how to properly access and use the child assessment information. All tables for Section 5 are located at the conclusion of the text portion of the section. Appendices appear at the end of the volume.

Criteria for Selecting the NLSY Child Assessments

The decisions about which child assessments to ask of the children of the female respondents in 1986 were carefully considered from a number of perspectives. The selections were made jointly by NICHD staff, Ohio State Center for Human Resource Research personnel and a nationally recognized panel of experts from medicine and the social sciences. We reconvened additional advisory groups to guide our thinking regarding the most appropriate information to be collected from these children as they matured. The members of these panels are listed in Table 5.1. Our original assessments generally met the following criteria:

(1) They were "tried and true" tests which, for the most part, had been extensively used by data collectors in a variety of social, economic and cultural settings. Some had been administered in household settings utilizing interviewing procedures similar to those followed with the NLSY. They were frequently suitable for administration by nontechnical

(but otherwise highly qualified) interviewing personnel to a cross-section of middle class and economically disadvantaged whites as well as minority children.

(2) Many of the tests are recognized by the social science community as well-established and well-normed. Available statistics indicate that they are generally highly reliable and valid. Reliable means that if the same individual is repeatedly given the same test, he or she will repeatedly have similar scores. Valid means that the test indeed measures what it purports to measure; validity is generally determined by comparing results on the given tests with results for the same individual on a different test whose validity has already been well established. Many of the tests are rated highly in Burroughs *Tests in Print* (Vol. 3, 1983), a widely recognized testing manual which rates all of the major aptitude tests. Over time we have augmented these statistics with additional information garnered from the 1986 through 1990 survey round.

(3) Most of the tests are inexpensive to administer, require very little equipment (important for tests administered in a home setting), and are relatively short.

(4) The utility and appropriateness of the tests have been considered from both longitudinal and cross-sectional perspectives. First, the participants in the questionnaire development process have carefully ensured that tests are included which cover to the maximum extent feasible the critical cognitive, personality and physical health dimensions at all maturational stages between birth and the early adolescence. Second, every effort has been made to assure that the tests complement each other analytically from a longitudinal perspective. That is, as the study is increasingly being maintained for additional years, we have assurance that developmental inputs at younger ages which are needed to evaluate outcomes at later ages are being appropriately included. Indeed, in this regard, most of these assessments are asked in the 1986, 1988 and 1990 survey rounds. Finally, every effort has been made to include basic cognitive and personality scales which can, in a cross-sectional context, be compared across age groups at one point in time (subject, of course, to the caveats discussed in the sampling section).

(5) None of the tests involve any physical or psychological risk to the children or any other family member. In all instances, the mother, who is the original sample respondent, was informed about the testing procedures and indeed, in several instances, the questions were addressed directly to the mother. If at any time there was any reticence regarding a procedure by either a child or the respondent, interviewers were instructed to cease testing immediately.

The 1986 - 1990 Child Assessments: An Overview

The NLSY data collection effort includes a substantial battery of assessment information about the children of the female respondents who were interviewed in the 1986, 1988 and 1990 survey rounds. All of the data collected in these child assessments are available on the 1990 child data tape as well as on the 1990 child CD-ROM. This includes summary scores and, in some instances, subscores for all of the assessments. Where available, the file also includes national norms based on the raw scores. Table 5.2 provides a complete listing of all the raw and normed scores available on the merged file. The file also includes individual item scores for all 1986 through 1990 assessments. Interviewer remarks associated with each assessment and "flag" items for several of the assessments indicating where prorations were necessary or where alternate scoring schemes were considered are also included. This will be addressed further below in relation to specific assessments. In essence, every individual item score in the 1986, 1988 and 1990 mother and child assessment is included in the file as are a large variety of raw and normed scores and subscores to the various assessments.

CHRR staff have examined the assessment data as carefully as possible while preparing the summary scores and the public use files. However, researchers who detect what appear to be significant data problems with the assessments are encouraged to contact Frank Mott or Paula Baker by phone (614-442-7378 or 442-7375), electronic mail (MOTT@OHSTHR.BITNET and mott@pewter.chrr.ohio-state.edu or BAKER@OHSTHR.BITNET and baker@pewter.chrr.ohio-state.edu), FAX (614-442-7329) or regular mail, describing the nature of the problem. Should any significant problem be detected, data purchasers would be notified and the issue publicized in the quarterly NLS newsletter, the *NLSUPDATE*. Users interested in receiving this and other NLS publications will find ordering information at the end of Section 6.

The following pages of this Section, organized on an assessment-by-assessment basis, contain information regarding how each assessment was scored and any relevant caveats. The discussion generally follows the order in which the assessments appear in the child instruments, beginning with the *Mother Supplement* and following with the *Child Supplement*.

Before describing each assessment, it is useful to provide an overview regarding which children received which assessments in 1986, 1988 and 1990. Table 5.3 synthesizes this information. The assessments listed in Part 1 of Table 5.3 were administered for all children who were age eligible in a given year. For example, mothers of children who reached the age of four years between the 1986 and 1988 survey rounds completed the Behavior Problems assessment in 1988 and 1990, but not in 1986.

Some assessments were only completed once by a child (subject to the caveat in the next paragraph)--the first time they become age eligible. These (three) assessments are listed in Part 2 of Table 5.3. Finally, starting in 1988 ten- and eleven-year-olds were administered all assessments for which they were age eligible, regardless of which ones they may have previously completed. This procedure provides users with an "index" group of children who ultimately (after a number of additional survey rounds) will represent a large, more fully representative sample of early adolescent youth for analysis.

Two assessments administered in 1986 and 1988 were deleted from the data collection effort in 1990 due to funding constraints. The Memory for Location and Body Parts assessment are no longer being administered. However, the 1986 and 1988 data and scores for these two assessments remain on the data file and thus are available to users. A description of these two assessments is included in this document. Also, readers may be interested in knowing that the PPVT-R has been readministered to all children age three and over in the 1992 survey round.

Section 3 indicated the number of children interviewed and/or assessed in each child survey year. We turn now to the number of children who have been assessed across the 1986-1990 period. Essentially, this includes children already born in 1986 who were also assessed in 1988 and 1990. Clearly, the number of children available for cross-year analysis will depend on the specific assessments being utilized as well as the age of the child. As a first approximation, Table 5.4 shows the number of children (by race/ethnicity and by age in 1990) who were assessed in 1986, 1988 and 1990. For researchers planning analyses with these data, this table presents a general picture of the number of cases available for 1986-1990 longitudinal analyses. More than 3500 children have been assessed at three points in time with substantial numbers of Hispanic, white and black children available for separate racial/ethnic analysis. Relatively large numbers of children are available for all pre-adolescent ages.

Assessment Changes: 1986 to 1992

Reduction In Assessments Administered. Since the initial child data collection in 1986, several changes have been made not only in what assessments are completed by the children, but in the kinds of information collected from the children and their mothers. Beginning with the 1990 survey round, the Body Parts and Memory for Location assessments are no longer being completed by the younger children. Additionally, beginning with the 1992 survey, the "story" part of Verbal Memory (part C) has been deleted. The primary reason for these deletions is economic. The rapid growth in the child sample over time, reflecting the substantial number of children being born, in conjunction with N.I.H. budget constraints, necessitated our setting priorities for the child data collection. An examination of the 1986 and 1988 results for these assessments suggested that they had relatively lower reliability compared with other assessments and had been less utilized than any of the other assessments.

Revised Temperament Scores. The deletion of these assessments had the secondary effect of reducing the direct contact between interviewers and younger (under age 4) children. This reduction in interviewer-child interaction typically restricted the interviewer's ability to complete the several "interviewer evaluation" items for children under the age of four. Reflecting this change, it has been necessary to reduce the number of Temperament (What My Child is Like) subscales available for younger children. These modifications are explained in the discussion of Temperament later in this section.

New HOME Items. Finally, based on our internal evaluation of the HOME scales and the dramatic increase in the number of older NLSY children, we have gradually augmented the number of questions in the HOME section for older children--although we have in no way altered the HOME scales themselves. This has been part of our plan to expand data collection for the older NLSY children.

Children 10 and Over. The 1988 child survey marked the introduction of a self-administered supplement, completed by all children age ten and over, which greatly expands the information available about the environment in which these children live. The 1992 child data release will include items from an expanded *Child Self-Administered Supplement*. Efforts are underway to collect an even wider range of socio-economic and attitudinal data for the older children beginning in 1994.

The Importance of Child's Age: A Cautionary Note

In all instances, the choice of which specific assessments and questions would be administered to a child depended on the child's age. Clearly, the responses and the summary assessment scores need to be interpreted in relationship to the child's age. As indicated above, where national age-specific norms have been available they have been included. In several instances, however, appropriate age-specific national norms have not been available. In these instances (except for the Temperament and Self-Perception assessments), age specific internally constructed norms are provided.

The user is reminded that, from an analytical perspective, combining raw scores for children at different ages is generally inappropriate. The user can consider several options in order to resolve this problem. First, she/he might consider developing age-normed standard or percentile scores using the NLSY child sample itself as the "normed" population. While this does not represent a perfect solution (reflecting the fact that the NLSY sample of children is not a national sample of children born to a full age spectrum of mothers), it is undoubtedly preferable to combining "raw scores" across age groups. It is suggested that if internal norms are created in this manner, they should be used only for combining children who are in fairly contiguous age groups. As noted above, weights are available that enable the user to translate the unweighted child sample into a sample of children representative of all children who have been born by a particular survey date to American women age 14 through 21 on January 1, 1979. One other option, which would be most appropriate when utilizing multivariate techniques, would be to include an age variable as a control. This may be an appropriate statistical technique where the non-normalized "raw" score being used includes comparable items for children at different ages.

Two Assessment Ages. Since all the interviewing in a particular household did not necessarily occur on a single day, the user is cautioned that the *Mother Supplement* child age variable should be used when working with assessments in that supplement and the *Child Supplement* child age variable should be used for assessments in that instrument. *Child Supplement* variables for 1986, 1988 and 1990 are E65., E68. and E70.1; *Mother Supplement* age variables are E66., E69. and E70.2. Generally, although not always, information in relation to a particular child was collected on one day. These age variables are measured in terms of attained months of age, so users may readily stratify the child sample into whatever age units seem appropriate.

PPVT Age. The user should note that the PIAT and PPVT-R batteries were normed according to slightly different age definitions. In creating a PPVT-R or PIAT month of age variable, a child's age is rounded up to the next month if he or she is more than 15 days through a given attained month as of the survey date (e.g., 56 months, 16 days old becomes 57 months). When using these batteries, the user should use the created 1986, 1988 and 1990 PPVT age variables (E5808. and E8003. and E8882. respectively).

Linking the Data Items to the Questionnaires

When individual questionnaire items are referred to in this handbook, the relevant "deck" and "column" numbers for that item (printed in the right-hand margin of each supplement) in the questionnaire are used. Items in the *Mother Supplement* are prefixed by an "MS" and *Child Supplement* items by a "CS." For example, question number 1 in Section 1, Part A of the *1990 Mother Supplement* is identified as MS900243 because: (1) it is in the *Mother Supplement*; (2) it was administered in the 1990 survey round; (3) it is in "deck 02," (see top of questionnaire page) and in columns 43-44 (see margin). Where an item uses more than one column, the initial column number is used for identification.

The Assessments

The following user and data quality information is ordered according to the sequence in which the assessments have been presented in the interview schedules beginning with the Mother Supplement assessments and followed by the Child Supplement. The only exceptions are the discussions of assessments no longer included in the 1990 survey round. These items are discussed here not only because of their continuing importance as outcome measures for the younger children, but because they may be viewed as important explanatory inputs for researchers who are examining the determinants of assessments and other outcomes for older children in 1990. This issue is highlighted further below.

The first four assessments discussed (HOME, Motor & Social Development, Temperament, BPI) were addressed to the mother or guardian of the child, whereas the remaining assessments were administered directly to the child. The user should consider this distinction when evaluating any analytical results. A mother's report of her child's behavior or personality may differ in significant but undefined ways from reality based on a variety of conscious or unconscious maternal biases.

The HOME-Short Form

The Home Observation for Measurement of the Environment-Short Form (HOME-SF) is the primary measure of the quality of a child's home environment included in the NLSY child survey. (A bibliography of references to research using the NLSY HOME-SF data is available from CHRR on request.) It has been extensively used as both an input helping to explain other child characteristics or behaviors as well as an outcome in its own right--for researchers whose objective is to explain associations between the quality of a child's home environment and earlier familial and maternal traits and behaviors.

The HOME-SF is a modification of the HOME Inventory (Caldwell and Bradley, 1984), a unique observational measure of the quality of the cognitive stimulation and emotional support provided by a child's family. The HOME-SF is about half as long as the HOME Inventory, an adaptation necessitated by survey time and cost constraints. More than half of the HOME-SF's items are multiple-response maternal reports reworded from the original HOME Inventory's dichotomous observer ratings. The mother report items may be found in Section 1 of the Mother Supplement (see Appendix A of this Handbook). Three sets of interviewer observations also used in assessing the home environment appear at the end of the Child Supplement (see Appendix B).

The HOME-SF is divided into four parts: the first for children under age three (Part A); the second for children between the ages of three and five (Part B); the third for children ages six through nine (Part C); and the fourth for children ten and over (Part D). In 1988 and again in 1990, the HOME-SF items were expanded for children ten and over. In this regard, the user may note that the section for children ten and over includes several items of potential analytical importance which are not included in any of the HOME summary scores and which are not part of Caldwell and Bradley's original scale.

Bettye Caldwell designed the Infant version of the original HOME Inventory and, with Robert Bradley, developed the Preschool and School Age versions. Bradley worked closely with CHRR staff to shorten, modify and reword the HOME inventory for use in survey research, making part of it interviewer observation and part maternal self-report. Caldwell provided general advice and consultation. At least three items from each domain of the original HOME were selected for the HOME-SF whenever possible, as well as observer-ratings of cognitive stimulation, and particularly, the emotional relationship between mother and child. Bradley and Caldwell reviewed and approved the final draft of the Infant, Preschool, and Elementary HOME-SF versions used in the Mother and Child Supplements of the NLSY-86, and Bradley was involved in the 1988 reviews. They consulted with CHRR staff at professional meetings, exchanged memoranda with CHRR staff, provided a Spanish translation, and supplied CHRR with the relevant psychometric and clinical literature and data on the HOME Inventory.

Bradley's selection of HOME Inventory items for the HOME-SF was based on an examination of reliability coefficients, discrimination indices, validity coefficients, and factor loadings from prior published and unpublished research. He recommended items that are important to the research community--items which are strong indicators of the home environment's construct, and comparable across the age-specific versions. He edited the item stems and response alternatives written by CHRR, writing occasional items himself. He decided which items would be dichotomous, which would a choice of multiple responses, and how they should be scored. Bradley selected the items for each subscale and, with CHRR staff, named the subscales. Finally, he suggested procedures used to train the interviewers in their administration of the instrument.

Scoring. The total raw score for the HOME-SF is a simple summation of the recoded individual item scores and varies by age group, as the number of individual items varies according to the age of the child. The total HOME-SF score and the two subscores have one imputed decimal place. For example, a score of 30 is really 3, and so on. In addition, total scores were imputed for children where one or more of the component items had inadvertently been left unanswered. The imputation procedure assigns an average value for all those items which had been completed to each of the unanswered items. Proration flag variables (E9901., E9905., E9909. and E9913.) specify the number of items which required imputation for the different age groups; a score of zero on this proration flag variable means that all individual component items were answered. For the two subscores, a more stringent proration rule was followed: scores were derived only for cases where no more than one item was missing.

In addition to the overall HOME-SF score, the Child file includes two subscores: a cognitive stimulation and an emotional support score. The (questionnaire item) components of the total as well as cognitive stimulation and emotional support subscales are specified in Table 5.5.1. Because there are no appropriate national norms available for the overall HOME-SF score or its components, we provide internally normed standard and percentile scores for the 1986, 1988 and 1990 overall HOME-SF scores as well as for the cognitive stimulation and emotional support subscores.

The internal norms were developed using standard normal curve assumptions. Children were normed on a single year of age basis with each (weighted) single year of age group being assigned a standard score mean of 100 and standard deviation of 15. Percentile scores were derived from the standard scores using an inverse normal routine. To the extent that the single year of age data deviate from normality, this procedure produces less than optimal results. An alternate percentile score can be generated using the empirical cumulative distribution function by age computed using the sampling weights. That frequency could be used to cross-walk from raw score to a percentile score.

In order to construct an overall score as well as the two subscores for the HOME-SF, all of the individual items were translated into dichotomous zero-one variables and then appropriately summed. The precise recoding which was done for the Mother Supplement components of the scores is specified in the HOME section of the questionnaire in Appendix A of this document. Appendix B presents the items used in scoring the HOME-SF that are drawn from Section 12 (Interviewer Observations of the Home Environment) of the Child Supplement (pp. CS-79 to CS-82 in 1990).

HOME Recodes. Several of the HOME-SF items required extensive initial recoding in order to fully utilize the verbatim responses originally coded as "other." The HOME-SF Part B contains items (E9551. - E9559., questions MS900345-MS900361) concerning mother's response to the child hitting her. The HOME-SF Part C and Part D have items (E9594. - E9602., questions MS900517-MS900533 and E9644. - E9652., questions MS900657-MS900673 respectively) concerning mother's response to the child swearing at her. Both items are coded "1" if the parent's response is moderate, defined as without harsh reprisal.

The Part B item contributes to the HOME-SF scale scores only if certain alternatives ("send to room," "talk," "ignore," and "give a chore") are selected and if the "other" alternative is without harsh reprisal--that is, if a mild reaction is the first response. The Part B item is scored zero if any of the following are selected: "hit," "spank," or the "other" alternative is harsh. Harshness is arbitrarily defined as either extensive or excessive deprivation (time-out longer than two hours; deprivation longer than two days) or physical punishment (firmly grasping the child, blocking the punch, spanking then talking, or talking then spanking).

The Part C item was scored similarly. Yelling back and withdrawal of love, while perhaps emotionally harsh, were scored as mild (score of 1) because they are not physical responses. The item is scored zero if "spanking" is selected or if the "other" alternative is excessive (longer than three hours of time-out; longer than three days of deprivation) or if physical means ("eat soap") are the first types of punishment selected. Examples of verbatim scores as harsh are "break him up," "spank and ground for two weeks," and "spank then explain why." If the length of time-out was not specified ("send to room") then it was assumed to be a moderate amount of time, scoring the item as mild. Other examples of verbatims scored as mild are "never happens," "depends on the situation," "stand in corner until apologizes." A classic mild response (conveying no discipline) was "give him something to eat." A few other verbatims should be noted. One respondent with three children checked hit and commented, "Then say I'm sorry and laugh." Another mother of two checked hit saying, "But not like I'd hit an adult."

Using the HOME Assessment.

As indicated above, the items completed by children are dependent on their age; children under age 3 years, 3 through 5, 6 through 9 and ten and over follow different question sequences. The actual items and the recoding instructions may be found in an Appendix A. The individual items included in the overall HOME scale as well as the cognitive stimulation and emotional support subscales are specified in Table 5.5.1. The reference numbers for the children's HOME scores in 1986, 1988 and 1990 may be found in Table 5.2. In addition to the raw scores (which have different reference or "E" numbers depending on the HOME section the child completed), the reference numbers for the internally normed standard and percentile scores may also be found in that table. All children living with their mothers in a given survey year were eligible to complete the HOME assessment. The section to be completed in a given year was determined by the age of the child at the date the mother supplement was administered. Thus, children born by the 1986 survey date may have three HOME scores available (1986, 1988 and 1990), children born between 1986 and 1988 may have two HOME scores (1988 and 1990) and children born since the 1988 survey would have only a 1990 HOME score--assuming of course that their mothers completed a HOME assessment for them at the relevant survey points. Note also that whereas the raw scores are specific to a child's age at a specific survey point, the normed scores are slotted into specific file locations, regardless of the child's age. For example, overall HOME scores for a child born prior to the 1986 survey round would be E5712. (for 1986), E7916. (for 1988) and E9916. (for 1990), regardless of the child's age.

Quality of the HOME Data.

The HOME-SF has not only been among the more heavily used of the NLSY child assessments, but also has had relatively high completion rates over the years, has evidenced high reliability and appears to have reasonably high face validity.

The original HOME scale from which the NLSY HOME-Short Form is derived has proven to be a reliable measure. Bradley (1981) reports inter-rater reliabilities from six studies in the high .80s to low .90s. Bradley, Caldwell, and Elardo (1979) found that six month test-retest subscale correlations ranged from .45 to .87. Studying children from six to forty-two months of age, Yeates et al. (1983) found twelve month test-retest reliabilities from .43 to .68, and two-year test-retest reliabilities of .38 to .56. Ramey et al. (1984) reported two-year test reliabilities of .56 and .57. Van Doorninck et al. (1981) reported high total score stability (r = .86) among siblings tested at least ten months apart.

Prior longitudinal research indicates that the HOME predicts later cognitive, social, and physical development. Yeates et al. (1983) longitudinally compared the predictiveness of the HOME relative to the predictiveness of maternal intelligence for child intellectual development at two, three, and four years of age, finding that maternal intelligence was initially more predictive, but by age four the quality of the home environment was more predictive of cognitive development. The HOME has been shown to be more predictive of subsequent cognitive development than is concurrently measured cognition (Elardo, Bradley, and Caldwell, 1975). When administered as early as two months of age, the HOME has correlated from .34 to .72 with intelligence tests subsequently administered as late as four-and-a-half years of age, and the HOME at one and two years correlated (.33 to .65) with academic achievement in the first through fourth grades of school (Bee et al., 1982; Bradley and Caldwell, 1976, 1980, 1984; Elardo, Bradley, and Caldwell, 1985; Van Doorninck et al., 1981).

Besides these strong predictive correlations with subsequent intellectual development, the overall HOME scale has also been proven useful as an early indicator of a variety of developmental risks and delays such as clinical malnutrition, lead burden, failure-to-thrive, socio-cultural retardation, language delay, developmental delay, and poor academic achievement (Elardo and Bradley, 1981). The HOME is moderately related to SES and parental education (r = .2 to .6, Elardo and Bradley, 1981). A meta-analysis of the correlation between SES and intelligence found that measures of the home environment accounted for from four to eleven times as much of the variation in academic achievement and intelligence (median r = .55) as did standard measures of SES. The homes of divorced working mothers provided less cognitive stimulation and emotional support according to the HOME Inventory than did the homes of married (working or nonworking) mothers. Six studies found relationships between temperamentally difficult and unsociable infants and decreased cognitive stimulation and emotional support available in their homes.

Several studies using the NLSY Child assessment data have demonstrated the construct validity and reliability of the HOME-SF. Using both exploratory and confirmatory factor analysis, Parcel and Menaghan (1989) established that the 1986 HOME-SF data generated conceptually similar scales to those developed for the original HOME by Bradley and Caldwell. They derived three factor-based scales for school-age children. For children under the age of three, the factor-based scales are Stimulation (Chronbach alpha = .72), Warm Involvement (alpha = .71), and Non-punitive (alpha = .50); a composite scale based on these scales yields an alpha of .63. Menaghan and Parcel (1989) demonstrated the construct validity of these scales through their correlations with expected social dimensions such as SES, parental education, race, and marital status. For pre-school children, the factor-based scales are Cognitive Stimulation (alpha = .69), Acceptance of Child's Anger (alpha = .77), Warm Response (alpha = .69), Good Physical Environment (alpha = .60), and Not Violent (alpha = .59); a composite scale based on the items from cognitive stimulation, warm response and good physical environments yields an alpha of .71. Using the composite scale and its three component scales, Menaghan and Parcel (1989) offered additional evidence of the HOME's construct validity through correlations with meaningful social characteristics as well as with child temperament, behavioral, and achievement indicators. The five factor-based scales for school-age children are Parental Involvement (alpha = .87), Expectations for Self-care (alpha = .76), Warm Response (alpha = .80), Enrichment Opportunities (alpha = .59), and Good Physical Environment (alpha = .55); a composite scale based on items in enrichment opportunities, warm response and good physical environment yields an alpha of .71. As with the scales for the first two age groups, the composite scale and its component scales correlated significantly with expected parental background characteristics and child assessment measures.

Confirmatory factor analysis on the 1988 HOME-SF data has established that three scales--cognitive stimulation, maternal responsiveness, and good physical environment--are reliable and stable across time for both pre-school and school-age children (Menaghan and Parcel, 1992). Composite scales based on these subscales yielded alphas ranging from .69 to .72 for both age groups across both years (Menaghan and Parcel, 1992). A variety of expected factors--social (mother's employment and job conditions), human capital (mother's intelligence and education), contextual (income, presence of spouse) and child characteristics (sex, age, temperament)--have proven to be significant predictors of childrens' home environments (Luster and Dubow, 1990; Menaghan and Parcel, 1991; Barratt, 1991; Cooley and Unger, 1991; Hannan and Luster, 1991; Menaghan, 1993; Mott, 1993) and of changes in those environments over time (Menaghan and Parcel, 1992).

The predictive validity of the HOME-SF and various subscales developed from it has been explored in several recent studies. Cooley and Unger (1991), focusing on six- and seven-year-old children, found that the cognitive stimulation subscale is linked to higher scores on PIAT Mathematics and fewer behavioral problems. A modified emotional support scale, relabeled maternal responsiveness (alpha = .59) with the father involvement items removed, is linked with higher PPVT-R scores (Cooley and Unger, 1991). Using similarly modified scales for three- to five-year-old children, Desai, Michael, and Chase-Lansdale (1990) demonstrated that both cognitive stimulation and emotional support are strong predictors of PPVT-R scores. Luster and Dubow (1992), using the 1986 overall HOME-SF measure, found that the home environment is a significant predictor of PPVT-R scores for children from age three to eight, although the effect is much stronger for the three- to five-year-old children. In separate analyses by race, Moore and Snyder (1991) found that the 1986 HOME-SF score is strongly related to PPVT-R scores for whites, blacks, and Hispanics. Similarly, Luster and McAdoo (1991) found that the 1986 HOME-SF score is a significant predictor of PPVT-R and PIAT math scores for school-age black children. McCartney and Rosenthal (1991) found that the 1986 HOME-SF scale is a significant predictor of 1988 PPVT-R and Verbal Memory scores for both boys and girls and of lack of behavior problems in boys. Menaghan (1993) found that, controlling for background characteristics and work conditions, higher 1988 HOME-SF scores are significantly related to fewer behavior problems. Using 1986 data, Barratt (1991) took the HOME-SF items for school-age children and broke them down into four conceptually relevant scales: Reading Enrichment (alpha = .59), Household Responsibility (alpha = .67), Observed Involvement (alpha = .71); and Lack of Punitiveness (alpha = .64). These conceptual scales are positively and significantly related to a variety of child outcome measures, such as PIAT Math and Reading Recognition and PPVT-R. Mott (1993) has found that not only are there significant gender distinctions for white children between father-present and absent environments, but that both the cognitive stimulation and emotional support subscores are important predictors of cognitive development as well as other aspects of child behavior. He also has reported that a high quality home environment can act as a buffer against cognitive deficits which otherwise can develop in children living in father-absent homes.

Tables 5.5.2 through 5.5.12 include selected unweighted (sample) and weighted numbers and frequency distributions for the overall HOME-SF score, the cognitive stimulation subscore, and the emotional support subscore by age of child, and the mother's race or ethnicity. These tables provide clarification regarding the reliability and validity of the HOME-SF (hereafter referred to as simply the HOME). They also offer users a clear, graphic indication of whether or not sample sizes are adequate for meeting their research objectives. It may be seen from Table 5.5.2 that the overall HOME assessment was completed for over 92 percent of eligible children. This rate is somewhat below the 94-95 percent completion level achieved for the HOME assessment in 1986 and 1988. Turning from the total HOME scale to the more specific subscales, Tables 5.5.5 and 5.5.6 indicate that the completion rate in 1990 for the cognitive stimulation subscale was about 96 percent, compared with 89 percent for the emotional support subscale. The major reason for the decline in completion rates between 1988 and 1990, particularly evident for the emotional support subscale, stems from the fact that in 1990, younger children no longer received the Body Parts and Memory for Location assessments. Without these assessments, there was little opportunity for the interviewers to witness the mothers and younger children interacting with each other. As a result, many interviewers were unable to complete most of the Interviewer observations of the home environment for younger children (see page CS-80 of the *Child Supplement* or page 375 in Appendix B of this Handbook). These items are essential components of the emotional support subscale. This is the primary reason for the relatively lower completion rate for the emotional support subscale and for the lower completion rate for children under the age of three on the overall HOME scale. The other exception is for the oldest children on the emotional support subscale for an essentially analogous reason; the oldest NLSY children were more likely to be absent from the home at the interview date and thus the interviewer was once again less likely to observe the mother and child together. Other than these two situations, completion rates on the HOME were uniformly high for white, black and Hispanic children.

The overall HOME score as well as the two subscores were internally normed on a single year of age basis, with a mean standard score of 100 and a standard deviation of 15 (as may be seen in the weighted standard score distributions (see Tables 5.5.7, 5.5.9 and 5.5.11). However, these overall race estimates mask major variations in the quality of the home environment, as measured by the HOME, between the racial/ethnic groups. As may be seen in Table 5.5.7, white children have an overall standard score of 103 compared with 95 for Hispanic and 90 for black children. These racial/ethnic differences are evident at all age groups. Hispanic and black children have similar cognitive environments (Table 5.5.9), having mean scores of 93-94 compared with 102 for white children. In contrast, white and Hispanic children have emotional stimulation scores more similar to each other (Table 5.5.11), but substantially above the average black score. This reflects the greater proportion of black children living in fatherless homes--an important component of the emotional support subscore.

Table 5.5.13 includes additional important reliability information for the HOME assessment. Depending on the age of the child, it may be noted that the overall Cronbach alpha ranged from about .55 for the youngest children to about .7 for children age three and over. The cognitive stimulation subscale generally showed somewhat greater reliability with age-specific coefficients ranging from .50 and .72 compared with a range of .35 to .61 for the emotional support subscale. These estimates are generally comparable to what was found for the 1986 and 1988 HOME assessments. It is perhaps also fair to conclude that the high reliability for other older children in the sample reflects the larger number of items in the scales for the older children.

Table 5.5.14 provides correlations between the 1990 HOME score and subscores and the full range of cognitive assessments also included in the 1990 survey round. The strongest correlations may be found between the HOME scores and the PPVT--for the limited sample which completed the PPVT-R in 1990. Moderate correlations may also be found between the overall HOME score, the cognitive stimulation subscore and the PIAT mathematics and reading assessments. In general, the within-year correlations reported here are similar to what had been found with the 1986 and 1988 data.

Within-year HOME correlations with digit span, SPPC and Verbal Memory were somewhat lower than those reported for the PIAT assessments. Additionally, for the most part, correlations between the emotional support subscale and these assessments were somewhat lower than was found for the cognitive stimulation subscore. Additionally, as may be seen in Table 5.5.15, correlations between the 1990 cognitive stimulation and emotional support subscales are also modest, corroborating the notion that to a considerable extent they are indeed measuring different concepts.

Tables 5.5.16 through 5.5.18 include cross-year correlations between selected dimensions of the HOME scale in 1986 and a full range of child assessments in 1990 for children of selected ages. While far from definitive, these cross-year correlations provide useful evidence regarding the utility of the HOME as potential causal predictor of the psychometric properties innate to at least some of the other assessments.

It is useful to note that the HOME scale consists of a wide range of inputs which purport to measure dimensions of the quality of the home environment--family interaction patterns, physical attributes of the home, intellectual attributes, and so on. Thus, while some stability over time in these components might be anticipated, it is also true that significant change could be expected. This change may reflect major changes in family structure (e.g., a divorce or separation or the birth of a new child) or physical environment (a move to a physically better or poorer residence). For these reasons, while the cross-year correlations between the HOME scores (Table 5.5.16) are quite strong, they are not overwhelmingly so. The overall correlation is .54 between 1986 and 1988 and .45 between 1986 and 1990, and the correlations between the subscores over time are slightly lower.

The cross-year correlations between the HOME cognitive stimulation subscore and the PIAT assessments are quite similar to those reported above for 1990. Indeed, there is no significant evidence of changes in the strength of the HOME-PIAT correlations over time, suggesting some modest stability in the prevalence of HOME cognitive support (already suggested above by the cross-year HOME cognition correlations) as well as possible longer term home environment effects on a child's intellectual well-being.

Conversely, as may be seen in Table 5.5.18, the cross-year correlations between the HOME emotional support subscale and the behavior problem score and subscores are quite weak. This is true for children at all ages and for all the subscales. All of the above over-time associations can of course be subjected to more careful analyses which may clarify causal ordering and meaningful substantive linkages.

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Motor and Social Development

The Motor and Social Development scale was developed by Dr. Gail Poe of the National Cente for Health Statistics. It measures dimensions of the motor, social and cognitive development of young children from birth through three years. The items were derived from standard measures of child development (the Bayley, Gesell, and Denver), which have high reliability and validity. The original test and further analyses by Child Trends of the items' use in a large health survey (of 2,714 children age four in the 1981 Child Health Supplement to the National Health Interview Survey) provide the age ranges at which each item's developmental milestone is generally reached by U.S. children. Based on the child's age, mothers answer fifteen age-appropriate items out of 48 motor and social development items. These items have been used with a full spectrum of minority children with no apparent difficulty. A Spanish version of the schedule is provided to mothers whose principal language is Spanish.

Using the Motor and Social Development Assessment.

The NLSY Motor and Social Development assessment has eight components (parts A through H), which a mother completes contingent on the child's age. The assessment is intended for children under four years of age with Part A appropriate for infants during the first four months of life (i.e zero through three months) and the most advanced section, Part H, addressed to children between twenty-two and forty-seven months. All of the items are dichotomous (scored either zero or one) and the total raw score for children of a particular age is obtained by a simple summation (with a range of 0 to 15) of the affirmative responses in the age-appropriate section. Associated with each raw score is an overall percentile and standard score as well as same-gender age appropriate percentile and normed scores. That is, boys were given male national norm scores and girls were given female national norm scores, in addition to both genders receiving the combined gender norms. All these normed scores were constructed by CHRR using data from the nationally representative sample in the 1981 National Health Interview Survey (National Health Interview Survey 1981 Child Health Supplement, DHHS. Ph.S.D. National Center for Health Statistics, Public Use Data Tape and Documentation [1984]). The total and same gender percentile and standard scores associated with each raw score may be found in Appendix B and the reference numbers for the various raw scores and overall and same gender normed scores may be found in Table 5.2.

The norms are grouped into fairly narrow age categories reflecting the extreme sensitivity of a child's level of development to his or her age: following a (four month) zero through three months age break, the four through thirty month age range was normed by successive three month age groups with the thirty-one through forty-two month range being normed according to three successive four month categories, followed by one five month (forty-three through forty-seven month) category. No proration was attempted on this assessment since the proportion of missing items is modest and there was some question about the appropriateness of the procedure, given that later items in the assessment tend to be more difficult than earlier items.

Quality of the Motor and Social Development Data.

Overall, the Motor and Social Development scale was completed for about 90 percent of the eligible children. This is essentially identical to the 1988 completion rate for this assessment and slightly below that reported for 1986. Racial/ethnic differences in completion rates are modest, although mothers of the youngest children are somewhat less likely to complete the assessment than are mothers of two- and three-year-olds. It appears that the potential for biased analyses due to selective nonresponse is quite small.

Tables 5.6.1 through 5.6.3 indicate the number of sample cases available for analysis for the overall group as well as by race/ethnicity, age and gender. Tables 5.6.4 through 5.6.12 provide weighted distributions for the standard and percentile scores which have been normed against the 1981 N.H.I.S. national sample of children. Paralleling the results we reported for 1986 and 1988, white children appear to score somewhat higher on this assessment than minority children, with the largest discrepancies appearing at the older ages. Little racial/ethnic variation is found among infants.

Caution should be exercised when interpreting results for three-year-olds, the oldest group completing this assessment. The MSD tends to "top out" for three-year-olds and does not provide a sensitive ceiling for these older children. Because of this, the overall mean weighted standard score for three-year-olds is only 98.5 compared with 101.6 for the full sample of children. *For this reason, researchers using the assessment should include an age control in any multivariate analyses even when they are using normed scores*.

It is also useful to note the reported gender differences at the youngest ages. Infant girls score significantly higher than their male counterparts, consistent with other evidence regarding early gender differences in motor and social development. Researchers interested in analyzing boys or girls separately are reminded that separate gender-specific norms are available. Tables 5.6.8, 5.6.10 and 5.6.12 provide weighted MSD distributions for children by the level of their mother's education. It may be noted that there are indeed discrepancies by education, with the largest differences appearing between children whose mothers have less than twelve years and those who have twelve years or more of schooling. These variations by education are not always consistent across gender or child's age and the reported differences may reflect both real developmental differences between socio-economic groups as well as differences between mothers in their ability or likelihood of reporting particular social or physiological differences in their children's development.

The MSD scale shows only modest within and cross-year correlations with other assessments where measurable associations might be anticipated. As may be seen in Table 5.6.13, the zero order correlations between motor and social development and the child's home environment are quite modest, with cognitive linkages being somewhat stronger than those reported with the HOME emotional support scale. Cross-year linkages with the Behavior Problem scale and subscales, while in the expected direction, are generally very low (Table 5.6.14) as are associations with the PIAT reading and mathematics assessments. Finally, for a modest sample of children for whom two MSD scores are available (i.e. children who were below the ages of four in 1986 and 1988), a cross-year correlation of .29 in the same assessment is reported. The above results as well as other available research using the MSD scale suggest only limited shorter term predictive value for this assessment.

Since the MSD scale is a measure that contains both social and physiological components, CHRR staff have examined in a preliminary way the properties of more detailed subscales that might distinguish motor from social dimensions by grouping various combinations of related items. While there is modest evidence of different social and physiological factors, this preliminary analysis has so far not yielded consistently higher scale reliabilities or more meaningful indices which would permit researchers to effectively separate the social from the physiological dimension. We are continuing to explore this issue and welcome inputs from interested researchers.

Finally, as has been suggested by our tabular results, there are distinctive differences by race/ethnicity and maternal education in how children are scored and presumably perform on this assessment. Analyses completed using this assessment generally support our reported variations. Peterson and Moore, in an examination of the 1981 Child Health Supplement data (a nationally representative sample of 2714 children), explored the validity of the Motor and Social Development scale that was used in the NLSY. As expected, they found that mean scores rise monotonically by age, that girls mature faster than boys, and that preterm and low birth weight babies develop at a slower rate (Peterson and Moore, 1987). They also identified positive relationships between both income and amount of living space and development, further demonstrating the construct validity of this measure. A curvilinear relationship was evident between maternal education and MSD, with children of mothers with high and low levels of education showing slower rates of development. The MSD scale showed significant differences by family type, with children from two-parent and mother-only families demonstrating average development, children from adoptive families showing above average development, and children from step-parent or father-only families exhibiting below-average development.

In a study that used the 1986 NLSY Child Data to examine how nonmaternal infant care is linked with young children's development, non-healthy boys were found to score higher on Motor and Social Development if they are cared for by their mothers than in alternative care settings during infancy. More generally, within a multivariate context, higher MSD scores were found to be associated with more maternal education, being female, and having fewer siblings (Mott, 1991).

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Temperament/How My Child Usually Acts

At the time of the 1986 NLSY child survey design, no single instrument seemed adequate to use in measuring child temperament (Hubert, et al, 1982). As a result, a set of Temperament scales was developed based on measures from a variety of sources including Rothbart's Infant Behavior questionnaire (Rothbart and Derryberry, 1984), Campos and Kagan's compliance scale, and other items selected by Joseph J. Campos. These NLSY scales were also translated into Spanish and, where appropriate, administered by bilingual interviewers.

Because the child's temperament is partially a parental perception (Bates, 1980), the behavioral style of children in the NLSY was measured by a set of maternal-report items (for all children younger than seven years) and interviewer ratings (in 1990, only for children four years and older). The maternal scale "How My Infant Usually Acts" addresses the activity, predictability, fearfulness, positive affect, and friendliness of infants below age one. "How My Toddler Usually Acts" addresses the fearfulness, positive affect, and friendliness of one-year-olds. "How My Child Usually Acts" measures the compliance and attachment of two- and three-year-olds and additionally, the friendliness of children aged four through six. For children ages four through six, the interviewer rates the child's shyness when first introduced, shyness at the end of the session, and the child's cooperation, interest and motivation, energy, persistence, and attitude toward and rapport with the interviewer during the assessment.

Temperament is related to the child's impact on family members, and is linked with the development of behavioral problems (Bates, 1980). The Temperament scales selected for this survey include dimensions such as sociability, mood, adaptability, and compliance -- factors which are components of Thomas' easy-difficult temperament construct and which are precursors to personality development and social adjustment (areas measured by the Behavior Problems Index, discussed below), social relations, and performance on assessments such as the Motor and Social Development Scale and PPVT-R (e.g., Lamb, 1982).

As with adult personality measures, reviewers of temperament (Bates, 1980; Campos et al., 1983; Hubert et al., 1982) contend that the perceiver plays a significant role and that mild to moderate inter-rater agreement is the rule. Median parent-observer correlations of .2 to .4 in infancy increase to .3 to .6 by age two, median between-parent correlations are .4 to .6. Moderate internal consistency (.2 to .8) and retest reliability (to .9) are present and fair validity coefficients (.3 to .6) are found with a wide variety of criteria. Hubert et al. (1982) state that the most consistent and substantial relationship is found between temperamental difficulty and infant distress/fussiness with people. Published correlates include levels of neurotransmitters associated with stress, spectrographic analysis of cries, respiratory distress and post mature birth syndromes; maternal anxiety, sociability, responsivity, and stress; family moves, employment changes, paternal child care, birth of siblings; sensitivity to change and adversity, social communication, subsequent behavior disorders (i.e., delinquency, emotional disturbance), and cognitive and motor development.

Using the Temperament Scores.

The NLSY Temperament items were administered in three different sections, according to the age of the child. The mother-report items in Part A of the Mother Supplement were designed for infants under the age of one, Part B for children age one, and Part C for children between the ages of two and six years. Mothers were asked to rate the usual behavioral tendencies of each child using a 5-point scale. Two interviewer ratings of shyness at the beginning and conclusion of the session were applied to all children, as were the interviewer evaluations of the child's attitude toward being assessed. Because children under the age of four did not themselves complete any assessments, typically, interviewers did not have sufficient personal contact with the child to be able to evaluate the nature of the parent-child interaction. This resulted in a truncation of several scales addressed to children under age four.

Temperament items in the mother and child supplements were used to construct a total of eight individual and two composite scales. The questionnaire location for the items in these scales are specified in Table 5.7.1 and the file locations as well as brief descriptions of the individual items may be found in Table 5.7.2. The scores of the individual scales are simply a summation of the individual items in the scale, with some values recoded in reverse where appropriate. Where an item has been reversed, an (R) is indicated next to the individual item in Table 5.7.2. Since each score typically includes only a limited number of questionnaire items, no proration for missing items was used. Thus, if any item component of a subscale was missing, no score was computed for that dimension of temperament. Since no appropriate national norms are available for this assessment, only raw scores are provided.

An important change was, of necessity, made to the 1990 Temperament scoring. Because children under the age of four were not administered any of the *Child Supplement* items, it was necessary to truncate two scales addressed to younger children, the difficulty composite score for children between the ages of 8 months and 23 months and the friendliness scale for children under age two. Additionally, the sociability scale is now only available for children age four and over. For researchers requiring comparability over time, we include versions of these abbreviated scores for 1986 and 1988. For those years, abbreviated and unabbreviated versions of the scores are included in the 1990 file. All of the 1986 through 1990 Temperament scores included on the 1990 file are listed in Table 5.2.

Quality of the Temperament Assessment Data.

The response rates for each of the Temperament subscales are very high across all age ranges. Tables 5.7.3 - 5.7.12 show that, with few exceptions, the level of valid responses rarely falls below 92 percent, even when sample cases are distributed by race and by age. The generally higher completion rate for this assessment in 1990 (compared with 1988 and 1986) reflects the fact that younger children no longer complete those scales which require direct interview input.

Reliability analyses performed by CHRR on the various Temperament subscales reveal that the internal consistency of the subscales is generally moderate to strong. Table 5.7.13 shows a range of alpha coefficients from a low of about .50 for the positive affect subscale for one-year-olds to a high of .77 for the positive affect subscales for infants. Most of the subscales fall within the moderate to high reliability range of .5 to .7. Table 5.7.14 includes the Cronbach Alpha values for the 1986 and 1988 difficulty composite and friendliness abbreviated scales which are briefer versions of the original scales reflecting the deletion of the interviewer report items for the younger children. Tables 5.7.15 through 5.7.24 include weighted distributions for the various temperament subscales by age and race. The reader is reminded that these raw estimates are not normed in any way, so caution should be exercised when using the subscales across age or racial/ethnic groups.

Table 5.7.25 provides a breakdown of the pattern of intersubscale correlation for four age groups; under one, age one, ages 2-3 and ages 4 through 6. The cross-subscore correlations are generally consistent with expectations. For children under the age of one the strongest correlations are, not surprisingly, between subscales which are mechanically linked--e.g., where one subscale is a part of an abbreviated or composite score. Where there is no overlap of items, the strongest infant correlations are between predictability and positive affect and friendliness, and between friendliness and (inversely) fearfulness. Fearfulness and friendliness also show strong increase correlations for one-year-olds.

It is also useful to note that the Temperament sociability subscale which is available for children between the ages of four and six years has high face validity as a proxy for the positive or negative nature of the interaction between interviewer and child. Some evidence for this supposition may also be found in Table 5.7.25 which indicates generally stronger correlations between the sociability subscale-- which is based on the interviewer's judgement--and assessments which were directly administered by the interviewer (e.g., the PIAT assessment) Pronounced associations between sociability, PPVT-R and Verbal Memory had also been found in 1988 and 1986. This "halo" effect suggests that children who have good rapport with the interviewer may score somewhat better on assessments or, conversely, that children who perform better on the assessments may be viewed more favorably by their interviewer. Determining the direction of the possible causation is beyond the scope of this discussion. In contrast, correlations between the mother-completed assessments and the sociability scale generally appear somewhat lower.

Table 5.7.26 presents correlations between selected Temperament subscale scores in 1986 and the overall Behavior Problems score (for children 4-6 in 1986) and the insecure attachment subscale (children under one in 1986, in 1988 and 1990). There is strong presumptive evidence that the Temperament compliance, insecure attachment and sociability dimensions might be linked with subsequent behavior problems. While the magnitude of these cross-year correlations are modest, the signs are in directions consistent with expectations. Greater compliance and sociability in 1986 show some inverse association with behavior problems in 1988 and 1990, as well as being inversely linked with all of the Behavior Problem subscores (not reported in Table), in almost all cases attaining statistical significance. In addition, more insecure attachment in 1986 is associated with a greater level of 1988 and 1990 behavior problems. Thus, while linkages are modest, the results are consistent with theoretical expectations. Additional support for this thesis is provided by Parcel and Menaghan (1990) who found that, even with a variety of other maternal and household characteristics controlled, being rated as shy and anxious by the interviewer is significantly associated with lower PPVT-R scores.

Aside from the above internal CHRR evaluations, there is now a growing body of literature which suggests ways in which the Temperament items can be more effectively utilized in research. This includes a growing body of literature speaking to the validity of the various items and scales.

Analyses of the 1986 NLSY child temperament data by Menaghan and Parcel (1988) include what they feel are a more parsimonious set of reliable and valid scales for the three child age groups assessed. Starting with the six items applicable to children under age one year, they identified two major factors: Active (Alpha = .66) and Predictable (alpha = .64). For all children less than two years old, they derived two primary dimensions: one related to the eight items on fearfulness and fussiness (alpha = .67) and a second that includes the three affect items related to smiling (alpha = .75). The 21 items for children age two through six years yielded three principal factors which they call compliant (alpha = .64), shy (alpha = .68), and dependent-demanding (alpha = .63).

Hawkins and Eggebeen (1991) factor analyzed the 1986 temperament assessment data for children aged two to six and identified four factors: sociability, clinginess, compliance and inhibition. These scales were then combined with the six subscales from the Behavior Problems Index (BPI) and subjected to principal components analysis to develop an overall measure of psychosocial dysfunctioning.

Menaghan and Parcel (1988) also have presented evidence for construct and discriminant validity of the temperament assessment based on the scales they created. Infants who are eight months or older who are less active, more predictable, less fearful-fussy, and who smile more tend to be rated more positively by interviewers. Similarly, children aged two to six who are more compliant, less shy and less dependent-demanding are rated more positively by interviewers. When controlling for interviewer impressions, children who are fearful-fussy score less well on Memory for Location, and children who are more compliant and less dependent-demanding score higher on the PPVT-R. There are also significant relationships between maternal and household characteristics and temperament, with more negative temperament characteristics evidenced by children in households in poverty or with lower incomes and with mothers with less education and occupational status.

Various research studies have suggested the importance of temperament as a construct. In analyses using the 1986 NLSY Child data, Hannan and Luster (1991) found that having an infant with a difficult temperament is a significant predictor of lower quality of home environment, even controlling for a variety of maternal (education, self-esteem, intelligence, age at first birth) and household (income, presence of spouse, number of children) characteristics. Belsky and Eggebeen's findings based on the 1986 NLSY Child data, indicate that early and extensive maternal employment during infancy is related to high levels of non-compliance in four- to six-year-olds (Belsky and Eggebeen, 1991). In exploring changes in temperament over time for children assessed in 1986 and 1988, Mott and Quinlan (1991) found that participation in Head Start and other preschool programs is associated with increasing insecurity, compared to children not participating in such programs. Using an overall measure of psychosocial dysfunctioning derived from combining Temperament and Behavior Problems scales (mentioned above), Hawkins and Eggebeen (1991) found that the level of psychosocial dysfunction is similar across various father-absence conditions, except for the negative effects of having a grandfather present in the household for white children. Readers are encouraged to explore the use of these various alternate constructs in their research and to provide CHRR with any insights they may gain regarding the reliability and validity of the temperament subscales.

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The Behavior Problems Index

This scale was created by Drs. Nicholas Zill and James Peterson of Child Trends Inc., Washington D.C. to measure the frequency, range and type of childhood behavior problems for children age four and over. Many items were derived from the Achenbach Behavior Problems Checklist (Achenbach & Edelbrock, 1981) and other child behavior scales (Graham and Rutter, 1968; Rutter, Tizard & Whitmore, 1970; Kellam et al, 1975; Peterson & Zill, 1986). Much of the following material describing this assessment was provided by Zill in a Child Trends memorandum dated November 25, 1985.

Parental respondents to the 1981 Child Health Supplement of the National Health Interview Survey were asked an extensive series of structured questions concerning the child's problem behaviors and use of mental health services (NCHS, 1982, pp. 100-102). The specific questions asked varied somewhat depending on the age of the child. The behavior problem items utilized in the NLSY were developed from these items.

The Behavior Problems summary score is based on responses (from the mothers) to 28 questions (*Mother Supplement* items 1-26, 31, and 32 in the 1990 Behavior Problems scale) dealing with specific behaviors the child may have exhibited in the previous three months. Items 27 through 30 are not part of the Behavior Problems scale. They were added subsequently by CHRR staff to tap dimensions that were not adequately covered by the original 28 items. Three response categories ("often true," "sometimes true," and "not true") were used in the questionnaire, but responses to the individual items have been dichotomized and summed to produce an index score for each child. Each item answered "often" or "sometimes true" was given a score of one, and each items answered "not true" was given a score of zero. Two of the items (questions 31 and 32 in the 1990 Behavior Problems sequence) are appropriate only for children who have ever attended school.

Based on factor analysis, the 28 items have been used to define six behavioral subscales: antisocial, anxious/depressed, headstrong, hyperactive, immature dependency and peer conflict/social withdrawal. The procedures used to define these subscales are described below. The Behavior Problems Index has been employed in several prior national surveys that have included children from a wide range of social, economic, and ethnic backgrounds. A Spanish version of the schedule was used by mothers who preferred using a Mother Supplement translated into Spanish.

Using the Behavior Problems Index.

The individual items in this scale may be found in Section 4 in the Mother Supplement. As indicated above, items one through 26 are included in the scale for all children, and items 31 and 32 are included only for children who have attended school. Thus, the final two items are not completed for a relatively large proportion of four-year-olds as well as some five-year-olds. The items translate into one overall score and six subscores tapping various dimensions of child adjustment. Several items felt to be more appropriate for older children were added to the BPI in 1988. These items are not included in the scale but are available for individual analysis. Before scoring, the individual items are recoded such that code 3 in the questionnaire becomes "0" and code 1 or 2 becomes "1." Higher scores on this index imply a greater level of behavioral problems.

The items included in the scale are identical across the 1986, 1988 and 1990 survey years. Table 5.8.1 specifies the reference number and questionnaire locations for all of the items in the three years and briefly describes each item and indicates which items are specific inputs to the six subscales. Table 5.8.2 provides an easy reference list regarding which items are included in each subscale.

In addition to one overall BPI raw score and six raw subscores, normed scores have been constructed based on data from the 1981 National Health Interview Survey. Overall as well as "same-gender" percentile and standard scores (with a national mean of 100 and standard deviation of 15) are available for each child for each score/subscore. These normed scores are based on single year of age data. For children below the age of six, separate norms are computed for children in and out of school. The six subscales are constructed to measure antisocial, anxious-depressed, headstrong, hyperactive, dependent and peer conflict dimensions of the child behavior.

Given the limited number of possible responses for some of the subscores, the user is cautioned that the range of normed outcomes for some of the subscores is quite constrained. As with the other Mother Supplement assessments, if a user wishes to select a sample of children of a particular age, the Mother Supplement child age variable (E70.2) should be utilized. Finally, the linkage between the raw scores and the various (nationally) normed scores may be found in Appendix C.

Quality of the Behavior Problems Index Data.

Zill and his associates at Child Trends performed comprehensive factor analysis procedures on the 1981 NCHS data in defining the most appropriate items for inclusion in the overall scale and the various subscales (Zill, 1985). Principal components analyses were used by Child Trends to verify that the items in the scale could be considered to be tapping common underlying dimensions. Using the binary scoring of items described above, major first factors were found for both children aged four through eleven and adolescents aged twelve through seventeen. As anticipated, however, several secondary factors with eigenvalues greater than one were also obtained. For the children aged four through eleven, the first factor accounted for 25 percent of the total variance and 57 percent of the common variance. All but one of the scale items loaded on the first factor at a level of .38 or more. For the adolescents, the first factor accounted for 29 percent of the total variance and 60 percent of the common variance. All scale items loaded on the first factor at a level of .41 or higher. The internal consistency reliability of the index scores was found to be alpha of .89 for the children and alpha of .91 for the adolescents.

Although the Behavior Problems items in the Child Health Supplement questionnaire are used to derive a single summary score, the scale was also designed to contain several distinct clusters of items, representing some of the more common syndromes of problem behavior found in children and adolescents. The syndromes have already been listed above and component items are specified in Table 5.8.1. Subscale scores were produced by dichotomizing responses to individual behavior items as above and summing across subsets of between three and six items. Principal components analysis with varimax rotation was used to verify, first, that the overall Behavior scale did contain several separable dimensions similar to those that were hypothesized to occur; and, second, that the groups of items used to compute subscale scores did hang together as anticipated.

It should be noted that a reinterview study of certain Child Health Supplement items was conducted and analyzed by the Bureau of the Census (Schreiner, 1983). Six of the Behavior Problems items were included in the reinterview questionnaire. The study found that parental reporting of individual items of problem behavior was unstable over a two-week period (e.g., of those parents who reported on either the original interview or the reinterview that their child had difficulty concentrating, only 46 percent reported such difficulty on *both* interviews). However, Zill found that when the individual items were combined into a scale, the test-retest reliabilities obtained were quite comparable to the internal consistency reliabilities calculated from the Child Health Supplement public use file. Specifically, four items from the hyperactive subscale were included in the reinterview study. When a scale is formed by combining responses to these items by the binary scoring method described above, the test-retest reliability of the resulting scale score is equal to .63. Using the Spearman-Brown formula to estimate the reliability of a longer scale containing the same type of items, Zill obtained an r of .68 for a hyperactive subscale containing five items, and r of .92 for a Behavior Problems index containing 28 items. Table 5.5.13 includes Cronbach Alphas for the overall Behavior Problems Index in 1990 as well as for the various subscales. The coefficients in Table 5.5.13 are very similar to those reported by Zill. Thus, even though the two surveys were carried out on substantially disparate samples with different interviewing procedures and environments, the close comparability in the coefficients lends support to the notion that the BPI assessment can be used with some confidence. Additionally, the Cronbach Alphas derived from the 1986, 1988 and 1990 NLSY Behavior Problems sample are generally quite similar to each other.

The NLSY Behavior Problems scales have been used quite extensively by researchers, typically as outcome measures in research examining a variety of familial and maternal inputs as predictors of subsequent child behavior. These research efforts have contributed substantially to our knowledge base regarding the reliability and, in particular, the face validity of the overall scale and subscales.

As evidence of construct validity, Parcel and Menaghan (1988a, 1988b) demonstrate the strong relationship between the BPI and a variety of social and demographic variables. For example, children in households with higher incomes or where the mothers have higher hourly rates of pay exhibit fewer behavior problems. Conversely, children living in poverty exhibit more behavior problems. Mothers who are older, more intelligent, and have more education also report fewer behavior problems for their children. Child characteristics are also related to the BPI, with older children showing higher levels of behavior problems in almost all areas (see also Dubow and Luster, 1990). Children who score higher on the PPVT-R have fewer behavior problems, while children who have been referred for psychological help have more behavior problems. Parcel and Menaghan (1988a) found some important gender differences as well, with boys scoring higher on their Externalizing scale and its component subscales and girls scoring higher on the Internalizing scale. While they found no significant effects for ethnicity on the total, Externalizing or Internalizing scales, Parcel and Menaghan (1988a) did find significant interactions among age, gender and the experience of marital disruption on all three scales.

The Behavior Problems Index has proven to be an important indicator of socioemotional development and has been used in a variety of research contexts to explore issues such as the effects of maternal employment, daycare, divorce, father absence, family poverty and crowding, and maternal smoking. Baydar and Brooks-Gunn (1991) found that maternal employment in the first year of life is related to higher (i.e., poorer) BPI scores for three- and four-year old children, even when controlling for factors such as gender, number of siblings, mother's intelligence and poverty status. Greenstein (1992), however, found no consistent relationship between maternal employment in infancy and behavior problems at ages four to six, once mediating factors such as home environment and income and interactive effects between income and type of care are controlled for. Vandell and Ramanan (1991) found interactions between family characteristics and type of after-school care to be more important indicators of behavior problems than type of care per se; specifically, they found that children living in poverty and experiencing latch-key care or mother care after school were at particular risk for having high scores on the BPI.

In their study of maternal employment, child care, and socioemotional development, Belsky and Eggebeen (1991) used factor analysis to create two composite scores, SHY and ADJUST, in which BPI was a principal component. Their analyses indicate that full-time employment in the first or second year after a child's birth is linked with lower levels of adjustment than more limited employment across the child's first three years of life. However, when the composite ADJUST measure was decomposed, they found that the effect was restricted to the compliance component of the measure and that no reliable association remained between behavior problems and maternal employment.

In assessing the impact of father absence, Mott (1992) found that for all children except black girls, there are some negative affects of father absence on BPI scores, although these effects are relatively weak once maternal and other relevant characteristics are controlled for. White boys are particularly affected by father absence (Mott, 1992). In examining the effects of divorce on young children, Morrison and Cherlin (1992) focused on changes in the BPI from 1986 to 1988. They found an initial association between increases in behavior problems and marital disruption for both boys and girls, but introducing a wide variety of controls such as maternal and child characteristics, income and assets, and home environment reduces this effect to near zero for girls, although it remains statistically significant for boys. Using a longer time frame (1986 to 1990) and focusing on somewhat older children, Mott and Menaghan (1993) found that, at least for white girls, having a father present is associated with fewer behavior problems, while having a father-figure either depart or arrive increases behavior problems. In looking at living patterns after marital disruption, Hawkins and Eggebeen (1991), using a metascale combining subscales from both the BPI and Temperament assessments, found only one significant difference in psychosocial functioning among a variety of father (or father-figure) present or absent conditions, once gender, ethnicity, maternal characteristics, resources, and household size are controlled. For white children, living in a household with a grandfather present had adverse effects on psychosocial functioning.

In their study of NLSY children born to teenage mothers, Dubow and Luster (1990) examined the effects of father absence as well as other risk factors (poverty, crowding, low maternal education, early maternal age at birth, and low maternal self esteem) on academic and behavioral adjustment. They concluded that children exposed to multiple stress factors were at greater risk for behavior difficulties as measured by the total BPI scale in 1986.

While some of the studies cited above looked at effects of father absence on behavior over time, other research has explored the longer term effects of maternal behavior on children's behavior problems. Morrison, Moore and Myers (1992) found that children of teenage mothers had more behavior problems; however, maternal age at first birth affected behavior problems indirectly through mother's educational attainment, the home environment and the amount of time spent in poverty. Martin and Burchinal (1992) found that the mother's self-reported severity of non-drug offenses in 1980 had a significant positive effect on 1986 BPI scores, controlling for race, gender, poverty status, mother's age, marital status, and child's age. Controlling for a wide variety of health (birth weight, prenatal exposure to alcohol, chronic asthma) and socio-demographic variables (age, race, sex, family structure, income, maternal characteristics, home environment), Weitzman, Gortmaker and Sobol (1992) found a statistically significant, dose-related effect of maternal smoking on children's behavior problems, with mothers who smoked a pack or more a day both during and after pregnancy having children at particularly high risk of having extremely high scores on the BPI. Thus, there is a substantial body of published literature which has used the NLSY Behavior Problems scale to explore the determinants of behavior problems as of one point in time as well as changes in child behavior over time.

In addition to the various research efforts synthesized above, we also include a variety of tabulations which describe for the interested user relevant sample sizes, completion rates, and ethnic/racial/socio-economic differentials in the 1990 Behavior Problem score and subscores. Tables 5.8.3 through 5.8.5 indicate overall completion rates and sample sizes; Tables 5.8.6 through 5.8.27 provide weighted percentile and standard score distributions for the overall score and subscores; and Tables 5.8.28 through 5.8.30 present selected within- and cross-year zero order correlations.

Overall, about 96 percent of the children eligible to complete the Behavior Problems assessment have a valid score, and this completion rates varies little by race/ethnicity. Also, given that a fully nationally representative sample would be expected to have a mean standard score of 100, it may be readily noted (from Table 5.8.8) that the children in the NLSY sample have an average score well above the national norm--about 106. This reflects the fact that the NLSY children are not fully representative of a national cross-section of all American children but somewhat over-represent children born to younger mothers and less educated mothers. Of course, with each additional wave of mother and child data collection, the children are becoming increasingly representative of a full birth cohort of children. This has been highlighted in the earlier discussion of age and sampling constraints. This is best demonstrated by the fact that between 1986 and 1990 the mean child behavior problems standard score has declined from about 109 to 106.9. Correspondingly, about 18 percent of the NLSY children were in the top (national) 10 percent--but only 9 percent in the bottom (i.e., "best") 20 percent. The interested reader may note parallel variations for the six subscores.

The increase in mean standard score as one goes from the younger to older children (Table 5.8.8) is also symptomatic of this phenomenon; on average, the older children have been born to younger, less educated mothers and, thus, have higher (i.e., less satisfactory) Behavior Problems scores. This age pattern is present for black, white and Hispanic children although, as may be seen, there are racial/ethnic variations in scores within all age groups. This variation is further evidence of the need to control for age as well as for a full range of socio-economic background factors when carrying out analyses with these data.

The overall patterning of behavior problems masks some interesting and potentially important variations between the various subscores. For example, headstrongness, anxiousness-depression, antisocial behavior and, to a lesser extent, hyperactivity show increases in mean percentile scores as one goes from younger to older ages in 1990. However, these increases by age should not be constrained to reflect maturation per se. They are more likely associated with socio-economic differentials between the different age groups. In fact, if one follows specific age cohorts from 1988 to 1990 (e.g., hyperactivity for four- to five-year-olds in 1988 and six- to seven-year-olds in 1990), it may be seen that in several instances (e.g., hyperactivity, dependency) subscores decline as the children age and typically, for the other subscores, mean scores are not related to age per se (see Table 5.8.32). The interested reader may explore this issue further by comparing the 1990 age-specific subscore estimates in this report with the subscore tabulations included in Mott and Quinlan (1991).

Table 5.8.28 provides intra-assessment correlations for children who completed the Behavior Problems assessment in 1990. Thus, the reader may examine the extent to which the various subscales correlate with the overall behavior problems score and, in addition, examine the extent to which the subscales correlate with each other. In general, the headstrong, hyperactive and anxious-depressed subscales correlate to a greater degree with the overall score. This to some extent reflects the fact that these subscores include a greater number of items which are, of course, part of the overall score. Regarding the between-subscore correlations, it appears that the headstrong subscale shows the strongest linkages with the other subscales.

In Table 5.8.29, it may be seen that the overall scale as well as the subscales are reasonably consistent in their correlations over time. The 1986-1988 overall BPI correlation is about .6 with the 1986-1990 correlation falling to .5. There are more substantial fluctuations for the various age groups partly reflecting their smaller sample sizes. Generally, the subscore correlations over time are moderate, in the .3 to .5 range, with the correlations moderating as the interval lengthens from 1986-1988 to 1986-1990.

The magnitude of the correlations suggest that while there is certainly a significant tendency for children to maintain behavioral traits over time, there is also substantial evidence of instability in behavioral traits. This is consistent with evidence from other substantively linked assessments (such as the HOME scale) that many of these children are in environments substantially in flux due to changes in physical environments, household structure and, of course, factors external to their family.

Generally, the correlations between the overall BPI score and other assessments are modest. A higher level of behavior problems is associated with lower within-year PIAT scores, a poorer home environment, and lower digit span scores, but the negative correlations range from the .2 to .25 for the HOME to approximately .1 to .2 for the other assessments (Table 5.8.31). However, it is of some importance to note that the correlations with the PIAT assessments remain essentially unchanged as the time span between the BPI and PIAT scores widens; 1986-1988 and 1986-1990 correlations are no different in magnitude than are 1990 within-year correlations (Tables 5.8.30 and 5.8.31).

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Body Parts Recognition (1986 and 1988 only)

The Body Parts assessment, developed by Dr. Jerome Kagan of Harvard University, measures infant and toddler (one- and two-year-old) receptive vocabulary knowledge of orally presented words as a means of estimating verbal intellectual development. The interviewer names each of ten body parts and asks the child to point to that part of his or her body. The overall score attained by the child is a simple summation (from zero to ten) of the number of correct responses. A Spanish version of this assessment was available for use with young Hispanic children. This assessment was completed by age-eligible children in 1986 and 1988, but not in 1990.

Using the Body Parts Assessment.

The Body Parts raw assessment score attempts to measure a one- or two-year-old child's basic vocabulary capability. It is the sum of the items in that section which a child correctly identified (E7972. for 1988 and E5779. for 1986). Thus, a minimum score is 0 and a maximum score is 10. No proration was attempted since the later items are more difficult than the earlier items in the sequence. Because there is some ambiguity in the interviewer instructions, this assessment was scored in 1988 using three alternate criteria. First, a child had to answer each of the ten items either correctly (1) or incorrectly (2) on at least one of the two attempts in 1988 (three attempts in 1986). (See page CS-18 in the 1988 Child Supplement.) If the scoring was completed according to this criteria, then that case was coded a "1" on the Body Parts scoring criteria flag (E7973.). A second, less restrictive criterion allowed some of the individual items to be coded 3 (no answer) on some of the attempts. For this subset of children, a code of 3 was treated as an incorrect response and the overall assessment scored accordingly. These cases can be identified by a value of 2 on the Body Parts criteria flag. Finally, for children where virtually all the responses were coded 3 (and translated into "incorrect" responses) a value of 3 in the Body Parts criteria flag was assigned. Thus, users may restrict analyses to the more constrained sample or opt to include children who had been scored according to the less conservative definitions. As with all the assessments in the child supplement, the user who plans to extensively analyze the results of a particular assessment is strongly urged to evaluate the scoring schema and data quality according to their own criteria. While we have made every effort to create scores which are faithful to the intentions of the assessment developers, there are instances where researchers could reasonably disagree about what precise scoring procedures should be utilized. Especially relevant to this issue is the fact that this assessment was given to very young children for whom there could be considerable ambiguity in differentiating between "incorrect" and "non" responses. This ambiguity is one of the reasons that the assessment was discontinued after 1988.

As no appropriate national norms are available for scoring this assessment, we provided (for 1988) internally normed standard (mean of 100 and standard deviation of 15) and percentile scores (E7973. and E7974.). No normed results are provided for 1986. As the raw score on this assessment is extremely sensitive to the age of the child, users using the raw scores are encouraged to utilize appropriate techniques which would permit one to analytically compare children of different ages. When controlling for age the user should use the appropriate *Child Supplement* age variable which specifies the child's age (in months) as of the Child Supplement interview date.

Quality of the Body Parts Data.

The overall reliability and validity of knowing the names of various parts of the body is reported by Kagan to be good. He reports that preschoolers' knowledge of body parts vocabulary concurrently correlates ($r = .80$) with other vocabulary measures (personal communication, August 22, 1986). The Body Parts assessment parallels other standard tests of early childhood development (the Bayley, Gesell, Vineland, and Denver) in which the examiner asks the child to point to various parts of his or her body.

Notwithstanding the availability of a Spanish version of this assessment in the NLSY, the user should proceed very cautiously when interpreting its reliability and validity, particularly with regard to minority and relatively more disadvantaged children. *It appears that a child's score may be quite sensitive to the child's English language capabilities as well as rapport with the interviewer.*

The non-completion rate on this assessment in 1986 was about 17 percent, higher than for most of the assessments--although, somewhat surprisingly, the racial-ethnic variation was moderate. For about half of the completed assessments, a child is reported to not have responded on at least one question, requiring the assumption to be made that a nonresponse was indeed an incorrect answer.

The overall reported completion rate is somewhat higher in 1988 (about 89 percent) largely reflecting a greater willingness at CHRR to view a 3 as a valid response (Table 5.9.1). As indicated above, it is possible using the "flag" variable to limit one's sample to cases in which one has greater or lesser confidence in the reliability of the estimate.

In both 1986 and 1988, there were substantial differences between white and minority children in scores on this assessment. This may be seen in Table 5.9.2 for the 1988 results. Overall, about 29 percent of Hispanic and 26 percent of black children have reported scores at least one standard deviation below the mean compared with 9 percent for white children.

Research completed at CHRR also indicates that for all one- and two-year-olds, being black or Hispanic or having a mother with limited education is linked with poor performance on Body Parts, even after controlling for a full range of other early-in-life personal and family related explanatory variables. This same multivariate analysis also indicated that, everything else being equal, boys score significantly lower than girls on this assessment. The lower scores by minority children on this assessment may reflect difficulties with standard English language as well as less rapport with interviewers. With regard to this last point, it is useful to note that there was in 1986 a relatively high correlation (about .4) between children's Body Parts scores and their score on the Temperament "sociability" subscale. This three-item scale essentially measured the interviewer's subjective evaluation of the child's attitude toward being tested, rapport with interviewer and cooperation. Thus, to some extent, poor scores on the Body Parts assessment may have reflected a less than optimal interviewing environment.

Table 5.9.3 provides correlations by single year of age between the 1988 Body Parts percentile score and several other assessments completed by children the same age. It may be seen that correlations between Body Parts and the HOME emotional support and cognitive stimulation, the Motor and Social Development and Memory for Location scales, while modest, nonetheless suggest possible theoretical linkages between the domains defined by the various scales. However, Table 5.9.4 indicates that cross-year correlations between 1986 Body Parts scores and selected 1988 scores are lower; indeed, correlations with 1988 Verbal Memory scores for those children completing both assessments were very low and correlations with 1988 PPVT-R scores just attained .2.

Memory for Location (1986 and 1988 only)

The Memory for Location assessment was completed by age-eligible children in 1986 and 1988 but not in 1990. Developed and used extensively by Jerome Kagan of Harvard University (Kagan, 1981), it measures a child's short-term memory. The child, aged eight months through three years, watches as a figure is placed under one of two to six cups. The cups are screened from the child's view for one to fifteen seconds; the child is then asked to find the location of the figure. Items increase in difficulty as the number of cups and/or the length of time during which the cups are hidden from view increases. A child's score is based on his or her ability to select the cup hiding the figure.

The number of cognition measures available for use with young children in a large-scale survey such as the NLSY is quite limited. This is one of a relatively small number of reasonably well validated tests which was available for measuring short-term visual recall memory for preschool (below the age of four) children. Memory is an important component of cognition. Indeed, later school learning is closely tied, to a considerable degree, to this ability. Thus, as the children who completed this assessment in 1986 or 1988 move through the school ages, this assessment may prove useful as a meaningful predictor of subsequent intellectual success. This usefulness will be discussed in the following section.

Using The Memory for Location Assessment.

The number of individual items which an infant/child can potentially answer in this assessment is contingent on the age of the child. Children between the ages of 8 and 23 months start with item 1, the easiest question; children 2 years of age begin with item 4, and children 3 years of age start at item 7. A child's score is based on the highest (most difficult) question answered. A child who cannot answer the entry item receives a raw score of zero regardless of where he or she enters. Otherwise, if Q.1 is the highest item which a child answers correctly, the child received a score of 1. The maximum score is 10, if the 10th or final item is answered correctly. A child under two years of age is eligible to receive a score between zero and ten; a child age two can receive either a score of zero or a raw score between 4 and 10; and a child age three, by virtue of the fact that he/she enters at item seven, can only receive a raw score of 0, 7, 8, 9, or 10. Because external norms were not available, internally normed standard and percentile scores were developed. Standard and percentile scores are available for 1986 and 1988 (see Table 5.2). The user is still advised to use the normed scores cautiously because of the unusual distribution of raw scores described above.

Because of the relative complexity of administering this assessment, a number of responses were not coded precisely according to the theoretical decision rules. On the advice of the assessment developer, if a particular child followed a sequence which might have led to "extra learning" as part of the assessment process, he or she was still scored. For example, if a child was asked Q1B after having correctly answered Q1A, the child was scored and not given an "invalid skip" code, even though, theoretically, the child was supposed to proceed directly from Q1A to Q2A. In addition, a careful examination of the individual responses suggests that there were a number of children who began the assessment at an improper entry point but who ended up at a level they would, in all likelihood, have wound up anyway. In these instances, a score was provided for the children and these cases were "flagged" with a code of "2" on the Memory for Location flag variable (E7977. for 1988 and E5782. for 1986). A code of "1" on this flag includes all scored cases except those defined as 2's. Users who plan to use this assessment extensively should carefully examine the actual response patterns for this assessment. Individual researchers may choose to use more or less stringent scoring criteria than those used in developing the raw scores provided in this data file.

Finally, it is important to note that *this assessment displays a clear tendency to "top out" for the oldest children* in the age appropriate sample. That is, a very large proportion (over 60 percent) of all three-year-olds and over 30 percent of two-year-olds in 1986 and 1988 received the maximum raw score of 10 on the assessment. A relatively "normal" distribution may be in evidence only for children below the age of two (See Table 5.10.1 for 1988 distribution). This issue needs to be considered by anyone using this assessment, particularly if one- through three-year-olds are combined in one analysis.

Quality of the Memory for Location Data.

The Memory for Location test was prepared and has been extensively used (for example, in the National Collaborative Project) by Jerome Kagan of Harvard University. It has a four month test-retest reliability of .6. It has been shown to correlate reasonably well with a variety of achievement-oriented tests given to small children. Specifically, it correlated rather highly with language comprehension (.45 to .60) and drawing ability ($r = .63$). It has also been used in other cultures.

Our preliminary evaluation of this assessment suggests that Memory for Location scores from the 1986 NLSY should be used cautiously. Until demonstrated otherwise, it is perhaps best to assume that the assessment only measures what it directly purports to measure--short term memory.

The Memory for Location assessment had a relatively high non-completion rate, both in 1986 and 1988. About 20 percent of the eligible children do not have a score and somewhat higher non-completion rates may be noted for minority, particularly Hispanic children (see Table 5.10.1 for 1988 results). Hispanic children and children of less educated mothers constitute a disproportionate share of the non-completers. Additionally, younger children were less likely to complete the assessment. This pattern may reflect differences in receptivity or willingness of very small children to be tested. Menaghan and Parcel (1988), in their evaluation of the validity of the NLSY child temperament measures, found that children rated as more fearful by their mothers scored significantly lower on Memory for Location while children rated as shy scored significantly higher, even when controlling for interviewer impression. As with the Body Parts assessment, it may well be that the Memory for Location assessment may be quite sensitive to the interviewer-child interaction process.

Analyses completed at CHRR indicate that one through three year old black children and children of less educated mothers score lower on the Memory for Location assessment than do other children (Mott, 1991). Aside from these two factors, the only other of several explanatory variables linked with Memory for Location was the child's gender; boys perform poorer on this assessment than do girls.

As mentioned above, the researcher is cautioned against using Memory for Location results to generalize beyond its measurement of short-term memory retention. As may be noted in Table 5.10.3, the 1988 zero order correlations between Memory for Location scores and HOME scores, Motor and Social Development scores, Body Parts scores and PPVT-R or Verbal Memory scores (for three-year-olds) are generally low, although statistically significant. While the signs are generally in the expected direction, the strength of the associations are modest.

It may be seen from Tables 5.10.2 that racial/ethnic variations in scores on this assessment are modest. Also, the normed scores for three-year-olds on this internally normed test are significantly higher than for one- or two-year-olds, reflecting the fact that a disproportionate number of the oldest children "topped out" and received a maximum raw score of ten. This partly reflects the fact that only three-year-olds who had not completed this assessment in 1986 took the test in 1988--and these tended to be the older three-year-olds.

In addition, the cross-year correlations between Memory for Location in 1986 or 1988 in the various cognitive-linked assessments in 1990 (for all children with scores on both assessments) suggest only limited associations in the relatively shorter run (see Tables 5.9.4 and 5.10.4). In this regard, the body parts assessment appears to show significantly stronger within and cross-year linkages with the various assessments than does Memory for Location.

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Using the Child Assessments as Analytical Inputs

The longer the timeline for the NLSY child assessment data becomes, the more useful the data become, not only for measuring changes in particular child outcomes, but for exploring the linkages between earlier child development and later child cognitive or emotional development. For example, in 1986, the first year the assessment data were collected, children between the ages of eight and forty-eight months were administered the Memory for Location assessment, children aged one and two were given the Body Parts assessment, and mothers of all children under the age of four years completed the Motor and Social Development assessment for each of their eligible children. All of these assessments are hypothesized to include substantial cognitive and, to a lesser extent, socio-emotional components. In addition, the motor and social development scale is closely linked with a child's physiological development.

As of 1990, most of the children who were under age four in 1986 are now between the ages of four and eight. Virtually all have completed the PPVT-R and the Verbal Memory assessment, and most have completed the PIAT battery. Additionally, their mothers have completed the Behavior Problems scale and, repeatedly, the HOME battery. Thus, for these children in 1990, it is now possible to explore the extent to which some aspects of early childhood intellectual, emotional and physiological development is predictive of subsequent early school-age development. One can examine how family processes may mediate or enhance early-life disadvantage. One can also explore the extent to which family attributes or maternal behaviors may perhaps have been altered by early childhood developmental constraints, and perhaps how these altered family or maternal traits have implications for subsequent child outcomes. For example, a mother evidencing early detrimental characteristics in her child (proxied for by "poor" performance in one or all of these three assessments) may alter her subsequent behavior (e.g., work less) which in turn may affect the later child outcomes. Having early in life inputs for a growing sample of children may permit clarification of these analytical issues. The number of children who completed one of the early childhood assessments in 1986 and also a PIAT, BPI or SPPC assessment in 1990 is indicated in Table 5.11. By 1992, these numbers will be enhanced because cross-year analyses with these inputs and outcomes can also use the 1988 early childhood assessment inputs.

McCarthy Scales of Children's Abilities: Verbal Memory

The Verbal Memory subscale of the McCarthy Scales of Children's Abilities assesses a child's short-term memory in response to auditory stimuli. The Verbal Memory subtest selected for use in the NLSY is only one of six scales that form the complete McCarthy assessment battery. Verbal Memory is administered by first asking the child, age three years through six years, to repeat words or sentences said by the interviewer. Then the child listens to and retells the essential aspects of a short story read aloud by the interviewer.

In the first half of the word-sentence component of the assessment (Part A), the score which the child receives is contingent on the child repeating a series of words, ideally in the same sequence as they were uttered by the interviewer. In Part B of this first section, the child is scored according to the number of key words which he or she repeats from a sentence read by the interviewer. The combined total score for Parts A and B determines whether the story (Part C) is administered. In Part C, the child is read a story paragraph and then scored on the basis of his or her ability to recall key ideas from that story. National norms are available for this assessment, so a child is assigned normed scores based on his or her performance in comparison with a nationally representative sample.

Using the Verbal Memory Subscale.

Verbal Memory is essentially a two-part assessment typically given to children between the ages of 3 years and 6 years (although in 1990 it was only completed by four- through six-year-olds). This is one of the assessments that was not repeated in 1988 or 1990 for age-eligible children who had previously received a valid score on the assessment. The first part generates one total score which reflects the number of correct responses to the words and sentences on pages CS-34 and CS-35 in the 1990 *Child Supplement*. One total "raw" score is generated for this section. Appropriate national norms are available in the McCarthy manual (McCarthy, D., 1972, p.205). Thus, percentile and standard scores are available for linking with the raw score.

Entry into the "Story" (Part C) of the Verbal Memory assessment is contingent on receiving a minimum combined score of 8 on Part A plus Part B. (Part C was completed by all eligible children in 1986 through 1990 but was deleted for 1992.) There are a few instances of children entering and receiving a score on Part C who had received an invalid skip score on Part A and Part B. While it may not have been possible, for various reasons, to compute a precise score for Parts A and B, the available information was sufficient for the scorer to be confident that the A and B score summed to at least 8. Children who received a valid score of less than 8 on Part A and Part B are automatically assigned a "0" on Part C. This explains the considerable heaping at the zero outcome for Part C.

The scoring on Part C is a simple summation of the number of key words/phrases identified correctly from the paragraph on page CS-36 of the 1990 Child Supplement. No proration was attempted for missing responses. The individual items may be seen on page CS-38. A total raw score (E9975.) and two normed scores (E9976. and E9977.) are generated for Part C. The parallel 1988 and 1986 reference numbers may be found in Table 5.2.

From an analytical perspective, the prospective user may wish to note that the distribution of the percentile and standard scores for Part C are somewhat uneven, reflecting the fact that the Part C outcome allows for only 12 possible responses (0 and 1 through 11) with a major heaping as noted, at the zero category. The fact that the percentile/standard scores assigned to the various raw scores varies by the age of the child helps to smooth the normed responses somewhat. However, the user is encouraged to examine the pattern of normed responses before proceeding with his or her research. As with all of the assessments in the Child Supplement, age variables referenced by E65. (1986), E68. (1988) and E70.1 (1990) should be used when stratifying the sample by age of the child.

Quality of the Verbal Memory Data.

This assessment, published by the Psychological Corporation, measures a critical dimension of cognition required for current and later development and school achievement. In a Spanish population, the McCarthy Verbal Memory subscale correlated between .43 and .57 with reading achievement and between .30 and .33 with math achievement. It correlated with the PIAT subscales for reading recognition (r = .59), reading comprehension (r = .39), and mathematics (r = .42).

It is a highly respected and well-established test, and has high internal consistency (r = .80) and high validity with the Metropolitan Achievement Test, a widely used academic test. Besides correlating with academic achievement measures, Verbal Memory also correlates (r = .42) with vocabulary knowledge (PPVT-R), an indicator of verbal intelligence. This test has been normed on populations which include minority groups.

While this subscale has a high face validity regarding what it purports to measure, the user should be sensitive to the fact that the scoring of Part C, the story section, undoubtedly includes an element of subjectivity. Interviewers can, in some instances, disagree regarding whether or not a child's specific response was indeed a "correct" or "incorrect" interpretation of an aspect of the story. Also, to some extent, the verbatim verbal responses recorded by the interviewer could in some instances be coded in different manners by different interviewers. In order to test this latter premise, NORC had the 1986 verbatim responses for about 400 children coded independently by two coders. There was complete agreement between coders for 92 percent of the respondents.

At a different level, there is also some possibility that the Part A response patterns reflect a lack of precision in the instructions--an ambiguity that also exists in the McCarthy manual. The instructions (for Part A) only ask the child to repeat the words which the interviewer reads to him or her, but does not specify that the words should be repeated in the same sequence. However, in the scoring, the respondent loses a point if the words are repeated out of sequence. Thus, the extent to which the words were repeated in or out of sequence may have been a function of how the instructions were understood, an artifact that could attenuate the reliability of the Part A score.

The overall completion rate for Parts A and B is about 88 percent, a bit below the completion rate for most of the other child-administered assessments (Table 5.12.1). Hispanic children have a completion rate of only 81 percent, substantially below that for other children. Thus, as with some of the other assessments, there is surface evidence that language constraints come into play when evaluating the reliability and potential validity of this assessment. With regard to this assessment, it is important to note that a Spanish translation was *not* utilized. This test measures English language verbal retention. Thus, a language bias is clearly possible and implied for at least some children. For both the word and story components of the assessment, Hispanic children and children of less educated mothers are heavily over-represented among those who could not be scored--the "invalid response" subset. Additionally, for Part C, the "story" component of the assessment, only 83 percent of all the eligible children were able to be scored, with only 74 percent scorable for Hispanic children (Table 5.12.2).

Because the Verbal Memory raw scores were normed against a nationally representative population, it is instructive to examine the weighted standard score distributions for both the Part A plus B and Part C responses Given that the NLSY sample of children in 1990 modestly over-represents those born to youthful mothers, one might anticipate that our sample should score below average compared with a full national cross-section of children. This, indeed, is the pattern which may be found in the distributions in Tables 5.12.5 and 5.12.7. In comparison with national means of 100, our sample has a mean score of 95.8 on Parts A and B and 96.5 on Part C.

It is also useful to note that Verbal Memory scores for the modest sized six-year-old sample are lower than the scores for the younger children. The four-year-old age groups, and to some extent the five-year-olds, may be considered as fully representative of NLSY children in that age range. However, the six-year-olds (and to some extent the five-year-olds) by virtue of the fact that they disproportionately include children who for various reasons could not be administered the assessment in 1988 may be less representative of children their age. This may help explain the lower mean score and larger standard deviation for older children completing this assessment.

Beyond the reported lower scores for Hispanic children, there is also evidence that scoring poorly on the Verbal Memory assessment is linked with low maternal education (see Tables 5.12.6 and 5.12.8). Children of mothers who have not completed high school score substantially lower on all parts of the Verbal Memory assessment than children of mothers with more education. Thus, aside from the Hispanic disadvantage which undoubtedly is directly linked with language limitations, lower verbal scores, as might be expected, have a strong socio-economic component to them.

Shifting focus, it may be seen from Table 5.12.13 that Verbal Memory--particularly the more basic A+B scores--show reasonably strong correlations over time with the PIAT reading scores and that these correlations are maintained with the passage of time. The A+B 1986-1988 correlation with PIAT reading recognition is .25 and the 1986-1990 correlation is .29; the linkages with PIAT reading comprehension were comparable. In contrast, much weaker correlations may be noted for the Verbal Memory Part C-PIAT associations. Additionally, the A+B within-year correlations with PPVT-R in 1990 is .3; slightly lower correlations may be noted between Verbal Memory A+B and the HOME cognitive stimulation scale. We are unable to directly test for cross-year within-assessment reliability for the Verbal Memory because children complete this assessment only one time.

Analyses of the 1988 assessment also found quite strong correlations between 1986 Verbal Memory A+B score and 1988 Digit Span scores (.45 with the overall score; .27 with the forward digit span and .44 with the backward digit span [Mott and Quinlan, 1991]).

Drawing on earlier 1986 analyses, it is also useful to note that linkages between Verbal Memory and the non-achievement, mother-report assessments were also generally significant with the associations in the direction anticipated. The correlations between Verbal Memory (all parts) and Motor and Social Development for three-year-olds were around .25; the correlations with Behavior Problems for the older children were inverse but generally weak. Finally, moderate positive associations were noted between both parts of Verbal Memory and the HOME cognitive stimulation and emotional support subscales. These linkages appear weakest for the six-year-olds, perhaps reflecting a likelihood that school and other influences outside the home may be assuming more dominant roles. Finally, for children of preschool age (three- and four-year-olds) there were rather substantial zero order correlations--in the .35 to .47 range--

between the Verbal Memory scores and the Temperament sociability subscale (Baker and Mott, 1989). The causal implications of this linkage are undoubtedly complex, as a positive rapport between interviewer and child could possibly positively affect a child's responses on this assessment and conversely, a child who performs well may be more likely to be rated highly by an interviewer. It is also worth noting that the linkages between these same assessments are weaker for five- and six-year-olds, consistent with the notion that older children might be less affected by superficial contacts with "new and strange" individuals--since they frequently are placed in such situations in their preschool or elementary school environment.

As a more general point, it is useful to reiterate that in general, the correlations between interviewer administered assessments (and to a lesser degree between mother administered assessments) tend to be larger than correlations between interviewer and maternal administered assessments. While the relatively large correlations between Verbal Memory and the various achievement batteries are not surprising, it may well be that such connections may reflect a "halo effect" of sorts as children respond--either positively or negatively--to a particular interviewing environment or situation.

While usage of the Verbal Memory assessment has been modest to date, there is a growing NLSY literature which suggests that Verbal Memory can be used as an important cognitive outcome in research which explores family and maternal impacts on children. Stromsdorfer, Wang and Cao (1992) found that mother's intelligence and self-esteem had significant positive effects on Verbal Memory scores (Parts A and B) while total annual hours worked had a significant negative impact. McCartney and Rosenthal (1991) found that home environment had a significant direct effect on Verbal Memory (Parts A and B) while the effect of mother's intelligence operated indirectly through the home environment. Hawkins and Eggebeen (1991), using a composite score derived from the PPVT-R and Verbal Memory, found that certain male-present household configurations had no significant effect on intellectual functioning of young children, once maternal and other household characteristics were controlled for. Using Verbal Memory Parts A and B as one of several indicators of children's outcomes, Geronimus, Korenman and Hillemeier found that children of young mothers do not differ significantly from children of older mothers when controlling for early family background factors. Children of very young mothers scored significantly higher on Verbal Memory than did other children (Geronimus, Korenman and Hillemeier, 1992).

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Wechsler Intelligence Scales for Children: Memory for Digit Span

The Memory for Digit Span assessment, a component of the revised Wechsler Intelligence Scales for Children (WISC-R), is a measure of short-term memory for children aged seven and over (Wechsler, 1974). The WISC-R is one of the best normed and most highly respected measures of child intelligence (although it should be noted that the Wechsler Digit Span component is one of the two parts of the Wechsler scale not used in establishing IQ tables).

There are two parts to the Memory for Digit Span assessment. First, the child listens to and repeats a sequence of numbers said by the interviewer. In the second part, the child listens to a sequence of numbers and repeats them in reverse order. In both parts, the length of the sequence of numbers increases as the child responds correctly.

Using the Memory for Digit Span Assessment.

The Memory for Digit Span Assessment, a component of the Wechsler battery, was administered to children age 7 years and older in the 1990 NLSY Child survey round. As with Verbal Memory, this assessment was not repeated for children who completed it in 1986 or 1988, unless they were in the age 10-11 index child category. The child is instructed to repeat a series of 14 numbers (with increasing numbers of digits) forward and a different series of digits in reverse order. Each correct response is worth one point; the theoretical maximum on each of the subscores is, thus, 14 and for the total score 28. The forward sequence is completed prior to the backward digit sequence. However, entry into the reverse sequence is not contingent on successful entry or completion of the forward sequence. Where appropriate, a Spanish version of this assessment is administered.

This assessment generates three non-normed "raw" scores and one overall age-appropriate normed (standard) score. Whereas the normed scores for the other assessments are based on a mean of 100 and a standard deviation of 15, the Digit Span assessment is normed against a distribution which has a mean of ten and a standard deviation of three. Norms are only available for the total score (E5798. for 1986, E7993. for 1988 and E9985. for 1990). The norms may be found in Wechsler, D. *WISC for Children - Revised Manual*: The Psychological Corporation, 1984 (pp. 118-150).

The precise instructions and items used in this assessment may be found on pages CS-46 through CS-48 in the *1990 Child Supplement*, and reference location numbers for all the forward and backward scores may be found in Table 5.2. The researcher should be aware that the age distribution of children completing this assessment is essentially bimodal, as it includes a large number of seven- and eight-year-olds completing this assessment for the first time as well as ten- and eleven-year-olds in the index group who are repeating the assessment.

Quality of the Digit Span Data.

The Digit Span score is considered a good measure of short-term memory and attentiveness for children seven and older. Its parallel form reliability is about .53. Its average reliability (across the 6.5 to 15.5 age span) is reported as .78 (Chapter 4 in Wechsler, 1974). It correlates (r = .45) with PIAT Reading Recognition. Its correlation with the Stanford Binet IQ (Form L-M) is reported as .11 at age six, .44 at age nine and one-half and .30 at age twelve and one-half (Table 18 in Wechsler, 1974). When administered at age sixteen, it correlates .68 with the full WAIS IQ score. Thus, in addition to being reliable, it appears to correlate at moderate levels with various intelligence measures.

Shifting to an internal evaluation of the NLSY Digit Span scale, it may be noted in Table 5.13.1 that the overall completion rate for the total score is around 89 percent, with essentially identical completion rates for the forward and backwards subscales (see Tables 5.13.2 and 5.13.3). In 1990, black children reported substantially higher completion rates (93 percent) than Hispanic or white youth (87 percent).

An examination of the Digit Span scoring pattern in Tables 5.13.4 through 5.13.9 suggests some modest variations by race/ethnicity and the mother's characteristics; overall standard scores are lower for children born to the youngest mothers, largely reflecting their lesser education (Table 5.13.5). Mothers who did not complete high school have children with lower scores, but there is no systematic evidence of differences between children born to mothers with twelve years of schooling and children whose mothers have 13 or more years of school Continuing a pattern in evidence since 1986, it may also be seen (Table 5.13.4) that Hispanic children score lowest in the overall standard score, blacks fall in between Hispanics and other white children, and white children score the highest. While a Hispanic version is available for use, it may be that some Hispanic children with a less than adequate understanding of verbal English (the assessment is verbally administered by the interviewer) may be disadvantaged on this assessment.

The forward and backward components evidence a somewhat different and also less systematic pattern of racial/ethnic differences. With regard to the forward subscore, Hispanic children score substantially lower than black and other white children, a continuation of a pattern evident since 1986. Black and white children follow essentially similar scoring patterns, although it may be noted that in all three assessment years (1986, 1988 and 199), black children have forward scores slightly higher than their white counterparts.

In contrast, racial and ethnic variations on the "backwards" subscore are much more modest. Overall, Hispanic and black scores are essentially identical to each other with other white children reporting scores modestly higher than minority children. The lesser racial/ethnic variation for the backward subscore suggests that this component of the assessment may at least partially tap different dimensions of this particular skill, and that the backwards score in particular may be more culturally "neutral."

Both within and cross-year zero order correlations between the Digit Span scores and the PIAT assessments suggest that scores on this short-term memory retention assessment are reasonably good predictors of cognitive achievement in both the mathematics and reading sphere. As may be seen in Table 5.13.10, for the two age groups of children in 1990 who for the most part completed the Digit Span, overall Digit Span - PIAT correlations were about .4 for seven- and eight-year-olds, .4 for ten- and eleven-years-olds on the PIAT Mathematics and PIAT Reading Comprehension assessments, but reached .5 for the

PIAT Reading Recognition assessment. Thus, while the Digit Span assessment is, indeed, a test of numerical memory, it is clearly as predictive of verbal skills as it is of mathematics ability.

It is also useful to note that while Digit Span - PIAT correlations are somewhat lower for the two Digit Span subscores, there is evidence that the backwards score correlates somewhat more highly with PIAT than does the forward Digit Span score. Finally, modest (.25 to .30) correlations may be noted for the limited sample who completed both the Digit Span and PPVT-R assessments in 1990.

Table 5.13.11 provides even more impressive evidence of cross-year validity between Digit Span scores in 1986 and PIAT scores in 1986 through 1990. We focus here on children who were either 7 or 8 or 10 or 11 in 1986 and examine the zero order correlations with their PIAT scores in 1986 through 1990. With regard to the overall Digit Span standard score, not only are there reasonably substantial zero order correlations, but, particularly for the ten- and eleven-year-olds, there is no evidence of diminution of coefficients over time; correlations between 1986 Digit Span and 1990 PIAT scores are no different than 1986 within-year correlations. Thus, there is substantial evidence that the overall Digit Span score is a stable, relatively long-term predictor of PIAT reading and mathematics scores.

Generally consistent with the within-year (1990) correlations noted above, it appears that backwards Digit Span is a better long-term predictor than is forward Digit Span, particularly with regard to mathematics and, more often than not, for the older children in 1986. Thus, we have presented evidence consistent with the notions that the easily administered Digit Span assessment has relatively long term value as a predictor of cognitive achievement, and that the backwards Digit Span assessment has similar properties, particularly in the mathematics domain.

Finally, Table 5.13.11 also suggests that two year test-retest reliabilities for the overall standard score and the forward subscore are moderately high, approximately .5. The cross-year correlation for the backwards score is somewhat lower -- .3. Thus, while the forward score offers more reliability than the backwards score, it may be somewhat less valid as a predictor of various cognitive capabilities.

To date, the Digit Span assessment has only been used in a limited way by NLSY researchers, perhaps reflecting the more limited age range which complete the assessment as well as the availability of the PIAT assessments for all the children who complete Digit Span in any given year. Two examples of research which have used Digit Span as a cognitive outcome are papers by Stromsdorfer et al (1992) and Vandell and Ramanan (1991). Stromsdorfer, Wang and Cao (1992) used the 1986 NLSY child data to examine the effects of maternal labor supply on childrens' cognitive and affective development as measured by Memory for Digit Span as well as the PPVT-R, PIAT Math and Reading, Verbal Memory, and Self-Perception. While they found mother's work intensity to be a very modest predictor of performance on Memory for Digit Span, mother's fitted total annual hours of work did not show a higher level of effect for any particular age level. When they examined the **relative** impact of a series of independent variables (including work intensity, family income, maternal intelligence, self-esteem and education) mother's work hours showed the highest relative value for six of the seven cognitive assessments but had negligible impact on Memory for Digit Span. In their 1991 comparison of children in different types of after-school care, Vandell and Ramanan noted that while the type of care arrangement was related to a number of indicators on child functioning, there were no significant differences in performance on Digit Span by children in latchkey, mother-care, or other adult care.

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Self-Perception Profile for Children (SPPC)/"What I Am Like"

The Self-Perception Profile for Children (SPPC) is a self-report magnitude estimation scale that measures a child's sense of general self-worth and self-competence in the domain of academic skills (Harter, 1982). The twelve items in this assessment translate into two subscores, a global self-worth score and a scholastic competence score. These two scales represent two of seven subscales developed by Susan Harter. A full description of all of the subscales may be found in Harter (1985).

The assessment, titled "What I Am Like" in the Child Supplement, is completed by children age eight and over. Each of the two subscales include six items which are scored between one and four, with higher scores representing greater scholastic competence or greater global self-worth. Only raw scores, which are a simple summation of the six individual items in each scale, are provided, as no national norms are available.

The assessment is administered as follows (citing from Harter, 1985):

> "The child is first asked to decide which kind of kid is most like him or her, and then asked whether this is only sort of true or really true for him or her. The effectiveness of this question format lies in the implication that half of the kids in the world (or in one's reference group) view themselves in one way, whereas the other half view themselves in the opposite manner. That is, this type of question legitimizes either choice. Our confidence in this

> format is bolstered by the fact that children's verbal elaborations on the reasons for their choice indicate that they are giving accurate self-perceptions rather than socially desirable responses. The statistical data provide additional evidence with regard to the effectiveness of this type of question."

In the NLSY, this instrument is directly administered by the interviewer to the children. The interviewer reads each statement to the children, then asks "which kind of kid" they were more like, and followed up by asking whether or not the particular response was "really true for you" or "only sort of true for you." Only individual responses are coded by the interviewer; the scoring is done at the Center for Human Resource Research.

Using the Self-Perception Profile for Children.

The twelve individual items in this assessment translate into two subscores, a Global Self-Worth Score (E9980.) and a Scholastic Competence Score (E9978.). This assessment is completed by children aged eight years and over. There is no overall Self-Perception Score. Subscore identification for 1986 and 1988 may be found in Table 5.2. Each of these two scores is a simple summation of six items. The Global Self-Worth Score is a summation of the six "even number" items, beginning with the second item. The Scholastic Competence Score is a summation of the odd numbered items, beginning with item one. There are no appropriate national norms available for this assessment, so only the raw scores are available on the file. For a small number of cases, there are some missing items. In these instances, a proration was attempted, assigning average values to the missing items. Two proration flag variables (E9981. and E9979. for 1990) are included for each year's data which permit the user to identify those cases which were prorated. A zero on these flags indicates that all items were completed, a "1" indicates that one item was missing, and so on.

Quality of the Self-Perception Profile for Children Data.

There are many studies which have documented the importance of the Self-Perception Profile scale as a predictor of important child outcomes and behaviors. For example, it has been shown to correlate highly with teacher ratings of children and with a child's achievement motivation. It has high internal reliability (r = .73 to r = .86) and high (nine month) test-retest reliability (r = .8). The schedule translated into Spanish with no difficulty and prior uses of the schedule suggest no apparent cultural bias.

Research by Harter on an earlier version of this assessment indicated that the individual items follow reasonably normal distribution patterns, with means falling slightly above the 2.5 midpoint and standard deviations fluctuating around the value of 1, revealing adequate item variability (Harter, 1982). An examination of the twelve individual responses, as reported on in the NLSY, similarly suggests a reasonable item distribution and variation. The individual item frequencies may be found in the codebook and are included in the 1990 file. The overall weighted average mean item score for the 1990 NLSY sample was 2.83 for the scholastic subscale and 3.38 for the global subscale. An examination of Table 3 in Harter (1985) reveals comparable item means for her samples.

Overall, the NLSY administration of the SPPC poses few difficulties in the field. Completion for the whole sample exceeds 93 percent, ranging from over 96 percent for black children to about 91 percent for white and Hispanic children (Table 5.14.1 and 5.14.2).

In general, the reported reliabilities for the NLSY administration of these two subscales were somewhat lower than those reported in Harter (1985). She reports internal consistency reliabilities for the two subscales on various samples at around .8 whereas the 1990 NLSY data yielded alphas of .67 for the global self-worth subscale and .69 for the scholastic competence subscale (Table 5.15.13). How much these differences reflect significant differences between samples in terms of racial/ethnic mix or other socioeconomic characteristics has not been assessed as of this date.

As may be seen in Table 5.14.7, the overall correlation between these self-worth and scholastic subscales is .31 for eight- and nine-year-olds and .40 for children age 10 and over. This is somewhat lower than the comparable correlations reported by Harter for her various subsamples--which ranged between .46 and .64 (see Table 7 in Harter, 1985).

Generally, the cross-year correlations (1986 to 1988 and 1986 to 1990) are fairly substantial, particularly for the scholastic competence subscale. For the scholastic competence scale, the overall 1986-1988 correlation is .40, declining to .27 for 1986-1990. The parallel cross-year coefficients for global self-worth are .31 and .27 (Table 5.14.7). The over-time cross-subscale correlations are much more modest.

An examination of Table 5.14.7 additionally suggests some important variations between the two subscales in their within-year association with various other assessments as well as in their predictive value with cognitive assessments over time. In 1990, it is clear that a child's feelings about his or her scholastic competence are fairly strongly associated with how the child performs on the various PIAT assessments, but parallel associations between global self-worth and PIAT scores are much weaker. Additionally, 1986 scholastic competence correlates much more substantially with 1988 and 1990 PIAT scores than does 1986 global self-worth. It is useful to note that both within and cross-year correlations between scholastic competence and the various assessments is most pronounced for older children. In this regard, the lesser correlations for younger children may perhaps partly reflect a lesser ability by eight- and nine-year-olds to understand the individual Harter items. It may be that these stronger reported correlations for older children may also partly reflect the fact that they have their notions about their intellectual competence reinforced by others for a longer period of time. It is not unlikely that the strength between a child's feelings about his or her scholastic competence and the child's actual performance may increase over time as notions about self-esteem and actual accomplishments reinforce each other.

Other than for the linkages with cognition, it is also useful to note that both SPPC subscales are modestly associated with lower levels of behavior problems as well as higher scores on the Home cognitive stimulation and emotional support subscales. Most importantly, however, the over-time correlations suggest some significant longitudinal value for the SPPC scholastic competence scale as a potential predictor of cognitive well-being in the longer run.

As may be seen from Tables 5.14.3 through 5.14.6, there are indeed racial/ethnic as well as socio-economic differentials in evidence for both subscores. With regard to the scholastic competence subscale, Hispanic children score modestly lower than do black or white children. However, the variability by maternal education is much more pronounced, suggesting that a child's self-perception regarding his scholastic competence is closely associated with his or her family's socio-economic attainment.

Modest racial/ethnic and maternal education differentials in global self-worth also are apparent; white children and children born to mothers who have attended college score moderately higher on this more generalized subscale which, as has been shown, appears to have been correlated in a systematic way with longer term cognitive outcomes.

Research completed to date provides evidence generally consistent with our zero order correlations and is suggestive of the potential value of this scale for clarification of across and within-generation psychological well-being. Using 1986 data and combining the global and scholastic self-worth subscales, Stromsdorfer, Wang and Cao (1992) found that mother's self-esteem is a modest predictor of child's self-esteem. Dubow and Luster (1990), also basing their analysis on 1986 data, found that children with higher global self-esteem were significantly less likely to have academic problems and had significantly fewer total behavior problems, even in the presence of risk factors such as poverty, crowding, and father absence. Using 1988 data, Rogers (1993) found that children in mother/father families had higher levels of global self-esteem than children in mother/stepfather families and that children with higher self-esteem had significantly fewer behavior problems. Furthermore, global self-esteem and family structure interact in their effects on behavior problems, with self-esteem having a greater effect on the behavior problems of children in mother/father families than those of children in mother/stepfather families (Rogers, 1993).

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PIAT Mathematics

The Peabody Individual Achievement Test (PIAT) is a wide-range measure of academic achievement for children aged five and over which is widely known and used in research. It is among the most widely used brief assessment of academic achievement having demonstrably high test-retest reliability and concurrent validity. The NLSY Child Supplement includes three subtests from the full PIAT battery, the Mathematics, Reading Recognition and Reading Comprehension assessments. We focus here specifically on the Mathematics assessment, but many of these general comments are equally appropriate for the other PIAT (as well as PPVT) assessments.

The PIAT Mathematics assessment protocol may be found on pages CS-5l through CS-54 of the 1990 Child Supplement. This subscale measures a child's attainment in mathematics as taught in mainstream education. It consists of eighty-four multiple-choice items of increasing difficulty. It begins with such early skills as recognizing numerals and progresses to measuring advanced concepts in geometry and trigonometry. Essentially, the child looks at each problem and then chooses an answer by pointing to or naming one of four options.

The PIAT Mathematics assessment was administered to all children whose "PPVT age" was five years and above. Administration of this assessment is relatively straightforward, and the resulting completion rate quite high. Children enter the assessment at an age-appropriate item (although this is not essential to the scoring) and establish a "basal" by attaining five consecutive correct responses. A "ceiling" is reached when five of seven items are incorrectly answered.

For a precise statement of the norm derivations, the user should consult the *PIAT Manual* (Dunn, and Markwardt, 1970, pp. 81-91, 95). In interpreting the normed scores, the researcher should note that the *PIAT assessments used in the NLSY Child were normed about 25 years ago*. Social changes affecting the mathematics and reading knowledge of small children in recent years have undoubtedly altered the mean and dispersion of the reading distributions over this time period, an issue considered further below. In this regard, a revised version of the PIAT ("PIAT-R") was released in 1986, too late to incorporate as a 1986 child assessment. To date, we have opted to maintain internal continuity within the NLSY by continuing to use the 1968 version of the PIAT. Discussions are underway regarding the advisability of switching to the PIAT-R at some future date. Citations relevant to the PIATs appear at the end of the discussion of the PIAT Reading Comprehension subtest.

Using the PIAT Mathematics Assessment.

Administration of the PIAT Mathematics assessment is relatively straightforward. Children age five and above begin the assessment at an age-appropriate item (although this is not essential to the scoring) and establish a scorable "basal" by attaining five consecutive correct responses. A scorable "ceiling" is attained when 5 of 7 items are answered incorrectly. The non-normalized raw score is equivalent to the ceiling item less the number of incorrect responses between the basal and the ceiling. Procedures for administration may be found on pages CS-51 through CS-54 in the 1990 *Child Supplement*. Normalized percentile and standard scores are derived, on an age-specific basis, from the child's raw score. The user is reminded that *a child's age determination for this assessment is based on a PPVT age*. The norming procedures are essentially a two-step process with the percentile scores being derived from the raw scores and the standard scores from the percentile scores. The reference numbers for the 1986 through 1990 raw and normed scores are listed in Table 5.2. The norming sample has a mean of 100 and a standard deviation of 15. Please note that for all the PIAT assessments, more rigid basal and ceiling criteria were utilized in the data collection than in the scoring. This procedure, which was implemented so as to reduce the number of cases which could not be scored because of inappropriate interviewer entry or termination, in no way affected how the assessments were scored.

The majority of the invalidly skipped items in the PIATs fall into two categories. First, there are some children who were inadvertently skipped over even though they were an appropriate age. Second, there were a number of children who could not be scored because the scoring decision rules were not followed properly so either a basal or ceiling could not be obtained.

Users of the PIAT assessments are encouraged to carefully examine the individual response patterns as well as the reasons for invalid scores. Having the individual responses will permit the user to note that a number of assessments originally considered "unscorable" were scorable once the actual patterns of response on the various assessments were individually considered. This edit was possible because the interviewer recorded the actual response as well as a score of correct or wrong for each answer. Thus, if the correct-wrong item was inadvertently left blank but the actual response was available, it was frequently possible to make a post hoc determination of "correctness." In addition, depending on the user's research intention, it may be possible to "score" additional cases if one is willing to sacrifice some precision in the scoring. For example, some additional cases could be scored if one is willing to accept as adequate a score which would not deviate by more than one or two points from the "true" score.

The user should note that several improvements have been introduced into the 1990 PIAT norming scheme which should improve the utility of these measures as well as simplifying their use. First, children between the ages of 60 and 62 months (for whom no normed percentile scores had been previously available) are now normed using percentile scores designed for children enrolled in the first third of the kindergarten year--the closest approximation available to ages 60 to 62 months.

Second, children with raw scores translating to percentiles below the established minimum are now assigned percentile scores of one; children with raw scores translating to percentile scores above the maximum are assigned percentile scores of 99. In prior years, the "out-of-range" children had arbitrarily been assigned scores of 0, which led to some inadvertent misuse of the data. Finally, children more than 217 months of age are assigned normed scores of -4, since they are beyond the maximum ages for which national normed scores are available.

Quality of the PIAT Math Data.

The PIAT Mathematics assessment is widely used and is generally considered to be highly reliable and valid. Of all psychological tests, the PIAT had the forty-second largest number of citations since 1978 in Mitchell's (1983) *Tests in Print*. The PIAT was standardized on a national sample of 2887 kindergarten through twelfth grade children in the late 1960s. The one month test-retest reliability for the PIAT Mathematics assessment was .74 with lower levels of reliability generally evidenced at the lower grades (Dunn and Markwardt, 1970, Table 9). Depending on grade level, the mathematics scores correlated between .6 (fifth grade) and .72 (first grade) with the overall test score (Dunn and Markwardt, 1970, Table 11). As a measure of concurrent validity, the mathematics score was found to correlate from a high of .73

for fifth graders to a low of .34 for kindergarten children with PPVT IQ scores (Dunn and Markwardt, 1970, Table 14).

Shifting to our internal evaluation, it may be noted (in Table 5.15.1) that the overall PIAT Math completion rate is about 92 percent and ranges from close to 96 percent for black children to 91 percent for white children and 89 percent for Hispanic children. While not shown in the tables, the non-completers were heavily over-represented by children whose mothers had less than twelve years of school. Essentially, there are two kinds of non-completers. First, there are some children who were inadvertently skipped over even though they were of an appropriate age. Second, there were a number of children who could not be scored because the scoring decision rules were not followed properly so either a basal or ceiling could not be obtained. The first category included a disproportionate number of children from educationally disadvantaged backgrounds. The second category tended to be more randomly distributed--with a relatively large proportion of these incompletions being accounted for by a small number of interviewers who had difficulty with the scoring procedures.

The associations between PIAT standard and percentile scores and selected maternal and child characteristics may be found in Tables 5.15.4 through 5.15.9. The mean overall standard score for all children completing the assessment is 99.7, not substantially different from the overall scores reported in 1986 and 1988. White children, on average, score substantially higher than minority children, an average standard score of 101.8 compared with 95.5 for Hispanic and 94.7 for black children. Not surprisingly, there is a substantial difference in mean standard scores by maternal education. In particular, children of mothers who have not completed high school score substantially lower than children of high school completers. It is also useful to note that the standard score distribution, while well balanced around the mean of 99.7, is under-represented both by very high and low scoring children; the proportions with standard scores under 85 and above 115 (i.e., more than one standard deviation below or above the mean) is less than would be expected with a perfectly normal distribution.

Note that the overall normed standard mean for the NLSY sample on this assessment is 99.7 compared with a mean of 100.0 for the national sample it was normed against. This is in spite of the fact that the NLSY sample, as described earlier, does not fully typify a nationally representative sample of American children. It is hypothesized that this similarity with national statistics probably reflects the fact that the PIAT norming sample was typical of U.S. children in the late 1960s. It may well be that external influences such as television (e.g., "Sesame Street" programming) may have led to raising of _minimal_ mathematics knowledge--although not necessarily enhancing _advanced_ mathematics capabilities. The tabular results support this supposition. It has been noted that while the overall standard score mean on PIAT Math for the NLSY sample approximates 100, a disproportionately small fraction of the children fell more than one standard deviation above the mean--compared with the late 1960s norming sample. In contrast, the proportion more than one standard deviation below the norm also seems somewhat underrepresented compared with the norming sample. Thus, there is some modest evidence that the NLSY sample is above average, compared with 1960s children, in meeting minimal mathematics standards (e.g., being able to answer the relatively basic elementary mathematics questions), but below average in coping with more complex mathematics concepts and operations. In summary, all of the above evidence is consistent with the notion that the PIAT Math should be an effective outcome measure for a full range of analytical studies that probe sample variations relating to demographic and socio-economic factors. However, *it should be used cautiously if one's primary research emphasis is the comparison of these results with other population groups, as the reported normed scores appear to be unrealistically high*. Similar patterning may be noted for the other PIAT assessments.

Regarding this apparent anomaly, it is useful to note that the *PIAT-R Manual*, prepared for the 1986 revised PIAT, directly addresses this issue. When comparing test results for a sample of children who completed both the 1968 and 1986 versions it was found that children score higher than expected (i.e., mean standard score above 100) on the 1968 version of the assessment (Markwardt, 1989).

Tables 5.5.10 through 5.5.12 provide selected within- and cross-year correlations between the childrens' PIAT Mathematics score and various other assessments. Correlations between 1990 PIAT Mathematics and PIAT Reading Recognition and Comprehension scores for the most part are in the .5 to .6 range (Table 5.15.10), comparable to what has been found by Dunn and Dunn (1970) in their evaluation of the assessment. In the limited sample which completed both assessments, correlations between PIAT Mathematics and the Peabody Picture Vocabulary Test were around .5 and attained about .4 with the overall Digit Span standard score (Table 5.15.11).

Correlations of the 1990 PIAT match scores with several of the other assessments, while often modest, were consistent with expectations (Table 5.15.11). Correlations in the .2 to .3 range were found with the HOME assessments. A zero order correlation of .33 was found with the SPPC Scholastic subscale (compared with only .17 with the SPPC Global self-worth scale). Finally, a quite modest inverse correlation of -.13 was found with behavior problems.

It is of some importance to note that cross-year correlations between 1986 PIAT mathematics scores and 1988 and 1990 PIAT scores are quite substantial (Table 5.15.12). Within-assessment correlations are .59 and .57 for 1988 and 1990 respectively, with relatively substantial correlations noted for all age groups. Additionally, correlations between 1986 mathematics and 1988 and 1990 PIAT reading scores are in the .5 range with little evidence of declines in correlations with the passage of time. The similar within- and cross-assessment correlations suggest a relatively large common basis for interpreting the meaning of the PIAT scores.

While we do not synthesize here NLSY research utilizing the PIAT assessment, it is fair to conclude that these assessments have been successfully used by many researchers both as inputs to explain other behaviors as well as outcomes--typically linked with a variety of maternal and family priors. As of this date (Fall 1993), we are aware of approximately 40 NLSY research papers or publications which have used the PIAT mathematics assessment. A complete current bibliography of such research is available from CHRR.

PIAT Reading Recognition

The Peabody Individual Achievement Test (PIAT) Reading Recognition subtest, one of five in the PIAT series, measures word recognition and pronunciation ability--essential components of reading achievement. Children read a word silently, then say it aloud. PIAT Reading Recognition contains eighty-four items, each with four options, which increase in difficulty from preschool to high school levels. Skills assessed include matching letters, naming names, and reading single words aloud.

To quote directly from the PIAT Manual, the rationale for the reading recognition subtest is as follows:

> "In a technical sense, after the first 18 readiness-type items, the general objective of the reading recognition subtest is to measure skills in translating sequences of printed alphabetic symbols which form words, into speech sounds that can be understood by others as words. This subtest might also be viewed as an oral reading test. While it is recognized that reading aloud is only one aspect of general reading ability, it is a skill useful throughout life in a wide range of everyday situations in or out of school." (Dunn and Markwardt, 1970, pp. 19-20). The authors also recognize that "performance on the reading recognition subtest becomes increasingly confounded with the acculturation factors as one moves beyond the early grades."

This assessment is administered to children whose PPVT age is five and over. The scoring decisions and procedures are identical to those described for the PIAT Mathematics assessment, and a description of the process and recognition words may be found in the 1990 Child Supplement on pages CS-55 through CS-58. The only difference in the implementation procedures between the PIAT Mathematics and PIAT Reading Recognition assessment is that the entry point into the Reading Recognition assessment is based on the child's score in the Mathematics assessment, although entering at the correct point is not essential to the scoring.

As with the PIAT Mathematics assessment, it is important to note that the norming sample was selected and the norming carried out in the late 1960s. This has implications for interpreting the standardized scores of the children in the NLSY sample, as noted below and already described in the PIAT Mathematics discussion.

Using the PIAT Reading Recognition Assessment.

The scoring decisions and procedures for PIAT Reading Recognition are identical to those outlined for the PIAT Mathematics assessment. A description of this process and of the recognition words may be found on pages CS-55 through CS-58 in the 1990 *Child Supplement*. The entry point into this assessment for children of various ages was based on their PIAT Mathematics score, although entering at the correct point was not essential to the scoring.

As with the Mathematics assessment, children with invalid scores on this assessment either inadvertently never entered the assessment or else were unscorable because of inadvertent skips which precluded obtaining either a basal or ceiling. In some instances, a careful examination of the individual responses in conjunction with an examination of the interviewer's actual scoring calculations permitted clarification, and ultimately scoring, of additional cases.

It is, however, important to note that whereas the actual answer to each item was coded for the PIAT Mathematics responses, this was not done for the PIAT Reading Recognition items. This is one reason why the overall response rate is slightly lower on the PIAT Reading Recognition assessment: in contrast with the PIAT Mathematics assessment, it was not possible to rectify inadvertent skips for some children on the PIAT Reading Recognition assessment where the "correct-non-correct" check item was inadvertently left blank. Researchers who plan to use the PIAT Reading Recognition assessment extensively are encouraged to examine the individual response patterns. Where a particular researcher does not require great precision on this particular outcome (e.g. a categorization of scores into a number of discrete categories being sufficient), it may be possible to reduce the non-completion rate. In a number of cases, while an exact score may not be determined, an approximate score determination (e.g., within two or three points, or a score of at least a certain level) may be possible.

The user should note that several improvements have been introduced into the 1990 PIAT norming scheme which should improve the utility of these measures as well as simplify their use. First, children between the ages of 60 and 62 months (for whom no normed percentile scores had been previously available) are now normed using percentile scores designed for children enrolled in the first third of the kindergarten year--the closest approximation available to ages 60 to 62 months.

Second, children with raw scores translating to percentiles below the established minimum are now assigned percentile scores of one; children with raw scores translating to percentile scores above the maximum are assigned percentile scores of 99. In prior years, the "out-of-range" children had arbitrarily been assigned scores of 0, which led to some inadvertent misuse of the data. Finally, children more than 217 months of age are assigned normed scores of -4 since they are beyond the maximum ages for which national normed scores are available.

The eligibility of children for the PIAT assessments is based on their "PPVT age" which can differ from their calendar age (in months), a point elaborated on earlier in this section of the handbook. When working with any of the PIAT assessments, the "PPVT age" variable should be used.

Three scores are reported for the PIAT Reading Recognition assessment for 1986 through 1990: an overall non-normed raw score and two normed scores - a percentile score and a standard score. The norming sample has a mean of 100 and a standard deviation of 15; these were normed against standards based on a national sample of children in the United States in 1968. The reference numbers for the 1986 through 1990 variables may be found in Table 5.2.

Quality of the PIAT Reading Recognition Data.

A number of the general reliability and validity issues and statistics relating to the PIAT assessment battery have already been mentioned in the PIAT Mathematics data quality section and will not be repeated here.

As noted in the PIAT Manual, Reading Recognition (one month) test-retest reliability ranged between .81 for kindergarten level children to .94 for third graders (an overall median of .89 for all grades through grade twelve). Thus, this particular subscale is apparently highly reliable. As already noted, it correlates moderately well with PIAT Mathematics scores. In addition, as one progresses from kindergarten through grade five, its correlation with PIAT spelling gradually increases from .27 to .72. It correlated between .78 (first grade) and .88 (third grade) with the overall PIAT total test score, and between .42 (fifth grade and kindergarten) and .64 (third grade) with the PPVT IQ score. Thus, its concurrent validity as evidenced by correlations with the PPVT (a median of .55 for grades kindergarten through twelve) is moderately high. Finally, Hammill and McNutt's (1981) meta-analysis (8239 coefficients from 322 studies) of reading correlates reported a concurrent correlation of .72 between reading recognition and composite reading.

Shifting from these reported external comparisons to internal quality checks, the results of our examination of PIAT Reading Recognition in many ways parallels our earlier discussion of PIAT Mathematics. While slightly lower, the PIAT Reading Recognition completion rate level and pattern of completion parallels what was found with PIAT Mathematics. In addition, the potential for bias is similar as non-completion rates are significantly higher for Hispanic children and children of less educated mothers. This ethnic differential could be anticipated given that this assessment was administered only in English (Tables 5.16.1 through 5.16.3).

An examination of the PIAT Reading Recognition standard and percentile score distribution in Tables 5.16.4 through 5.16.9. also shows differential patterns similar to what was found for PIAT

Mathematics--although the level of the standardized scores is significantly higher. As with mathematics, scores are highest for white children and for children who have better educated mothers.

It is important to note that the scores on this assessment are much higher than what might have been anticipated given the fact that the sample of children includes a disproportionate number of children born to poor and minority mothers. This phenomenon was already noted for PIAT Mathematics. However, it is much more pronounced for the Reading Recognition scores. It may be recalled that the norming sample, which was drawn in the late 1960s, had a mean standardized score (by definition) of 100. The NLSY sample has an overall mean score of 103--ranging from 99 for black children to 105 for white children. Thus, even though NLSY children are disadvantaged compared with a full cross-section of contemporary American children, they nonetheless score above average compared to what one might anticipate for a full American cross-section of children. It is likely that this pattern at least partly reflects changes that have occurred in American society during the past 20 years. For example, it is very possible that factors such as child television viewing patterns or involvement in pre-school programs have fundamentally altered younger children's reading readiness, if not their advanced vocabulary capability. There is some evidence in the PIAT Reading Tables consistent with this premise. It should be noted that even though the mean standard scores are surprisingly high, the proportion scoring very well (i.e. two standard deviations or more above the mean) is not. Even a casual examination of the distribution of the scores suggests that the above-average mean scores reflect the fact that the proportion with low scores (one or more standard deviation below the mean) is under-represented. Thus, whatever the reason for this surprising distribution, its primary manifestation is in a pronounced under-representation of children scoring *very* poorly--consistent with the notion that the floor of basic vocabulary knowledge (that component of the assessment linked with reading *readiness*) is higher than it used to be.

Within and cross-year correlations with the PIAT subscores as well as the other assessments may be found in Tables 5.15.10 through 5.15.12. With regard to cross-year reliability, it may be seen that PIAT reading recognition correlates with itself at a .7 level, and that this correlation is stable over two and four years (Table 5.15.12). Its correlation with PIAT Mathematics approaches .6 within-year (Tables 5.15.10 and 5.15.12) and is about .5 across years. This is comparable to correlations reported by the test developers (Dunn and Markwardt, 1970, Table 11).

The 1990 correlations between PIAT Reading Recognition and various other assessments essentially parallel the results already reported for PIAT Mathematics, being fairly substantial with PPVT-R and Digit Span and somewhat less for other assessments (5.15.11). Finally, as was reported for PIAT mathematics, there is a substantial NLSY literature available which has utilized the PIAT reading (both recognition and comprehension) assessments both as an explanatory variable as well as an output. A complete bibliography is available from CHRR.

PIAT Reading Comprehension

The Peabody Individual Achievement Test (PIAT) Reading Comprehension subtest measures a child's ability to derive meaning from sentences that are read silently. For each of 66 items of increasing difficulty, the child silently reads a sentence once and then selects one of four pictures which best portrays the meaning of the sentence.

> "While understanding the meaning of individual words is important, comprehending passages is more representative of practical reading ability since the context factor is built in, which plays an important role, not only in deciphering the intended meaning of specific words, but of the total passage. Therefore, the format selected for the reading comprehension subtest is one of a series of sentences of increasing difficulty. The 66 items in Reading Comprehension are numbered from 19 through 84, with item 19 corresponding in difficulty with item 19 in Reading Recognition." (Dunn and Markwardt, 1970, pp. 21-22).

The PIAT Reading Comprehension assessment is administered to all children whose PPVT age is five years and over and who scored at least 19 on the Reading Recognition assessment.[4] Children who scored less than 19 on Reading Recognition were assigned their Reading Recognition score as their Reading Comprehension score. If they scored at least 19 on the Reading Recognition assessment, their entry point to Reading Comprehension was determined by their Reading Recognition score. Entering at the correct location was, however, not essential to the scoring.

Basals and ceilings on PIAT Reading Comprehension as well as an overall non-normed raw score were determined in a manner identical to the other PIAT procedures. The only difference was that *children for whom a basal could not be computed were automatically assigned a score of 19.* Administration procedures are described on pages CS59 - CS62 of the 1990 Child Supplement. As with the other PIAT tests, norming was accomplished in the late 1960s with all its attendant potential analytical problems. For a precise statement of the scoring decisions and of the norm derivations, the user should consult Dunn and Dunn (1981) and Dunn and Markwardt (1970).

Using the PIAT Reading Comprehension Assessment.

As with the other PIAT assessments, the Child File includes overall non-normed raw scores which can range from zero to 84, normed percentile scores and normed standard scores. Reference numbers for the 1986 and 1990 items may be found in Table 5.2. It should be noted that many younger children (age seven years and below) who received low raw scores could not be given normed scores because their scores were out of the range of the national PIAT sample used in the norming procedure. These children have been assigned -4 codes on the percentile and standard score variables. Researchers wishing to keep these children in their analyses will thus need to consider special decision rules. The way to identify these children, of course, is to cross-classify children by their raw score and standard score. They will be identified by having a valid raw score of zero or greater but a standard and percentile score of -4.

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[4] Please note that reading comprehension was actually administered to all children who scored 15 or higher on reading recognition. This lowered threshold was used to maximize our ability to ultimately score the reading comprehension assessment for those cases where interviewers made minor addition errors in totalling the reading recognition test, scoring actual scores of 19 or so as being only 15 through 18.

If one is using the PIAT Reading Comprehension assessment for analyzing five- and six-year-olds, the proportion of children without a standard score is a major constraint which cannot be ignored. As may be noted by comparing Table 5.17.1 with Table 5.17.2, a large proportion of five- and six-year-olds who had a *valid* raw score on Reading Comprehension could not be given normed scores. All of these children had raw scores below 19 and thus had their Reading Recognition score imputed as their Comprehension score; one solution for the youngest children (those with PPVT ages under 7) is to limit analyses to Reading Recognition.

By applying procedures parallel to those used with PIAT Mathematics, it was sometimes possible to clarify the score of a previously "unscorable" child by carefully examining the individual response patterns, particularly where the actual response for the "correct-incorrect" item had not been completed. In this way we were able to retrieve a number of cases not previously scorable. Depending on a researcher's individual inclination or need for precision, it may be possible to score, in an approximate manner, a number of additional children. In order to accomplish this, the researcher will need to examine the individual PIAT comprehension items. Researches who plan to use this outcome extensively are encouraged to examine the individual item responses.

The user should note that several improvements have been introduced into the 1990 PIAT norming scheme which should improve the utility of these measures as well as simplifying their use. First, children between the ages of 60 and 62 months (for whom no normed percentile scores had been previously available) are now normed using percentile scores designed for children enrolled in the first third of the kindergarten year--the closest approximation available to ages 60 to 62 months.

Second, children with raw scores translating to percentiles below the established minimum are now assigned percentile scores of one; children with raw scores translating to percentile scores above the maximum are assigned percentile scores of 99. In prior years, the "out-of-range" children had arbitrarily been assigned scores of 0, which led to some inadvertent misuse of the data. Finally, children more than 217 months of age are assigned normed scores of -4 since they are beyond the maximum ages for which national normed scores are available.

Quality of the PIAT Reading Comprehension Data.

As with the other PIAT assessments, Reading Comprehension is generally considered a highly reliable and valid assessment which, as noted earlier, has been extensively used for research purposes. This version was normed in the late 1960s and thus is subject to the same analytical constraints as the other PIAT assessments. In this regard, while the level of the standardized scores appears too high , it is likely that the patterning of the responses is probably reasonable. That is, higher scores will represent better outcomes in comparison with lower scores.

The PIAT Reading Comprehension subtest has a (one month) test-retest reliability which ranges from .61 for eighth grade children to .78 for first graders with an across-grade median of .64 (Dunn and Markwardt, 1970, Table 9). This is somewhat lower than was reported for the Mathematics and Reading Recognition subtests.

In terms of concurrent validity, as reported in Dunn and Markwardt, its linkage with the other subtests is somewhat erratic and appears quite sensitive to the grade level of the child. In the grade range of primary interest (grades five and below), correlations with PIAT Mathematics scores were generally low. Correlations with the PIAT spelling subtest ranged between .50 and .65. Overall correlations with the total PIAT score were more impressive -- .70 for first graders to .89 for third graders. In addition, not surprisingly, correlations between Reading Recognition and Reading Comprehension were generally fairly high (.61 - .80). The Hammill and McNutt meta-analyses cited above found a .72 median concurrent correlation between Reading Comprehension and composite reading and .74 between Reading Recognition and Reading Comprehension.

The overall completion rate for the PIAT reading comprehension score is slightly lower than that reported for the other PIAT subscores; 89 percent of eligible children have a raw score (Table 5.17.1) and a slightly lower 87 percent have a standard score (Table 5.17.2). The lower completion rate for the normed scores is due to the norming issue for younger children mentioned above. As with the other PIATs, the highest completion rate is for black children (92 percent) followed by 88 percent for non-hispanic white children and 85 percent for Hispanic children.

The reasons for the relatively high non-completion rate are not entirely clear. In some instances, a child was not administered either the Reading Recognition or the Reading Comprehension assessment even though the child was at an appropriate age. In other instances, a valid Reading Recognition score was available but the interviewer simply neglected to assess the child on Reading Comprehension. More typically, the Reading Comprehension assessment was attempted, but the interviewer did not ask a sufficient number of items to obtain a basal or a ceiling. An apparent common problem was where an interviewer entered the Reading Comprehension subtest at a fairly low level, apparently tested a child, but did not record all of the responses. In some instances, it appears that she did not record any answers until the child began to answer incorrectly (i.e., early correct answers were left blank and not coded). In other instances, it appears that an interviewer inadvertently did not record all incorrect responses (when defining a ceiling), but only the first and final incorrect responses. These are, however, only impressions based on observation of a limited number of cases. The primary reason for invalid scores is, however, less complex; in some instances interviewers simply failed to follow the administration procedures. In a small number of cases, it is not clear whether an assessment was only partially completed because a child lost interest or because a child was incapable of going further. A bias of this kind could lead to a slight overstatement of average scores for those children who fully completed the assessment. As with the other assessments, the researcher is encouraged to examine the scoring patterns for the invalid responses. Depending on one's research objectives, some flexibility in rescoring might be possible.

The patterning of reported PIAT comprehension scores in Tables 5.17.4 through 5.17.9 show considerable variability by race/ethnicity and maternal education and, to a lesser extent, maternal age at birth. Please note that normed scores at the youngest age are distorted by the fact that large proportions of five- and six-year-olds with "valid" raw scores (below 19) could not be given normed scores (see discussion above).

Generally, white (non-Hispanic) children scored highest on this assessment followed by Hispanic and then black children, although for the most part children of all races scored well compared to the national norming sample for the reasons noted above (Table 5.17.4). As was also true on the other PIAT assessments, there are substantial differences between the scores of children whose mothers have more or less education (5.17.5). Also, while not completely systematic, it appears that the oldest children, on average, have somewhat lower scores, as do children who had been born to younger mothers (5.17.6). As with all of the PIATs, this points to a need to carefully control for a full range of family demographic and socio-economic traits when using the assessments in complex analysis.

The cross-year reliability for the reading comprehension subscale is reasonably high---.6 for 1986-1988 correlations and .5 for 1986-1990 correlations. (Table 5.15.12) The within and cross-year correlations with the other PIAT subscales, particularly with the reading recognition scale, are quite substantial (5.15.10 and 5.15.12). The quite high within-year correlation with reading recognition (.8) partly reflects the fact that some children (those receiving raw scores below 19 on reading recognition) essentially receive identical recognition and comprehension scores. Finally, 1990 PIAT comprehension correlations with various other assessments are very similar to those already reported for other PIAT subscores (Table 5.15.11). For a listing of NLSY research that has used the assessment, please see the most recent NLSY child assessment bibliography, *Research Using NLSY Child Assessment Data: A Bibliography* (available from CHRR).

References: PIAT Math & Reading

Dunn, Lloyd M. and Frederick C. Markwardt Jr. 1970. Peabody Individual Achievement Test Manual. Circle Pines, Minnesota: American Guidance Service, Inc.

Hammill, D. and G. McNutt. 1981. The Correlates of Reading. Austin, Texas: PRO-ED.

Markwardt, Jr., Frederick C. 1989. Peabody Individual Achievement Test-Revised. Circle Pines, Minnesota: American Guidance Service, Inc.

Naglieri, J.A. and P.A. Harrison. 1982. "McCarthy Scales, McCarthy Screening Test, and Kaufman's McCarthy Short Form Correlations with the Peabody Individual Achievement Test. "Psychology in the Schools 19: 149-155.

The Peabody Picture Vocabulary Test - Revised (PPVT-R)

The final child assessment in the NLSY is the Peabody Picture Vocabulary Test (PPVT). "The PPVT-R measures an individual's receptive (hearing) vocabulary for Standard American English and provides, at the same time, a quick estimate of verbal ability or scholastic aptitude." (Dunn and Dunn, 1981). This assessment can be given to all children age three and over. The PPVT-R assessment protocol may be found on pages CS-63 through CS-74 in the 1990 Child Supplement. For the actual diagrams, one must access the PPVT-R Manual (Dunn and Dunn, 1981). The assessment consists of 175 vocabulary items of generally increasing difficulty. The child nonverbally selects one of four pictures which best describes a particular word's meaning. A child's entry point into the assessment is based on his or her PPVT-R age.

Children enter the assessment at an age-appropriate level, although this is not essential to the scoring. A "basal" is established when a child correctly identifies eight consecutive items. (An exception to this is in those cases where a basal cannot be established. In these instances a child is given a raw score of one.) A "ceiling" is established when a child incorrectly identifies six of eight consecutive items. A child's raw score is determined by adding the number of correct responses between the basal and ceiling to the basal score.

The PPVT-R was standardized on a nationally representative sample of children and youth. The norming sample included 4200 children in 1979, and norms development took place in 1980 (Dunn and Dunn, 1981). For a comprehensive discussion of this norming procedure, researchers should refer to the *PPVT-R Manual for Forms L and M* (Dunn and Dunn, 1981). The *PPVT-R Manual* provided information about the linkage between raw scores and standard scores, and the percentile score is mechanically determined by the known linkage between the standard and percentile score.

In 1986, this assessment was only given in English. However, beginning in 1988, a small number of children who preferred to do so were given the Spanish version of this assessment, the "Test De

Vocabulario en Imágenes Peabody." For this reason, post-1986 assessment results may be less culturally biased than the 1986 version.

In 1986, all children age three and over were given this assessment. In 1988, all ten- and eleven-year-olds (our "index" population) as well as other children age three and over who had not previously completed the assessment in 1986 were given this assessment. In 1990, all children age ten and eleven as well as all other children age four and over who had not previously completed the assessment were eligible for the PPVT-R assessment. In the 1992 survey round, all children age three and over were eligible to be assessed. Thus, when the 1992 child data become available, there will be at least two survey points (1986 and 1992) in which all age-eligible children who are still being interviewed will have a PPVT-R score. Of course, many of these children may also have had an intervening (at age 10 or 11) PPVT-R score.

Using the PPVT-R.

The Peabody Picture Vocabulary Test (PPVT-R) was completed in 1990 by the reduced sample described above. The entry point into the assessment was linked with the child's PPVT-R age, but entry at an improper point was not grounds for invalidating the result. The procedure followed for scoring was analogous to that followed with the PIATs, except that the basal was based on having a sequence of eight consecutive correct answers and the ceiling on having a sequence which included six of eight items answered incorrectly. As with PIAT math and reading comprehension, it was possible to improve the overall quality and completion level by utilizing information on the actual responses where the "correct-wrong" check item had inadvertently been skipped. In addition, depending on the user's research intention, it may be possible to "score" additional cases if one is willing to sacrifice some precision in the scoring. For example, some additional cases could be scored if one is willing to accept as adequate a score which would not deviate by more than one or two points from the "true" score. For a precise statement of the scoring decisions and of the norm derivations, the user should consult the *PPVT-R Manual* (Dunn and Dunn, 1981, pp. 96-110, 126).

Beginning in 1990 the procedure used to create the NLSY Child PPVT-R normed scores has been refined in two important ways. First, children with raw scores that translated into standard scores between 20 and 39 are now being normed using the *PPVT-R Supplementary Norms Tables* (American Guidance Service, 1981). Second, raw scores that would translate to normed standard scores above the maximum provided are now assigned standard scores of 160, and raw scores translating to standard scores below the minimum provided are assigned standard scores of 20. In prior years these children had been assigned a standard score of zero. Three 1986 through 1990 scores are provided for this assessment for each child; a non-normed raw score, a normed standard score, and a normed percentile score. The reference numbers for these items can be found in Table 5.2. Instructions in the PPVT-R Manual provided information about the linkage between the raw score and the standard score, and the percentile score is mechanically determined by the known linkage between the standard and percentile. The NLSY child sample has been normed against a national population which had been given a standard score mean of 100 and standard deviation of 15.

The user is reminded that the eligibility of children for the PIAT and PPVT-R assessments is based on their "PPVT-R age," which can differ from their calendar age (in months). This was elaborated on earlier in this Section of the Handbook. When working with the PPVT-R or PIAT assessments, the "PPVT-R age" variable should be used. Researchers who utilize 1990 PPVT-R scores as an outcome measure should be sensitive to the fact that the overall distribution of children receiving the assessment in 1990 is essentially bimodal--with large numbers of children at ages four and five and ten and eleven.

Quality of the PPVT-R Data.

The PPVT-R is among the best established indicators of verbal intelligence and scholastic aptitude across childhood. It is among the most frequently cited tests in Mitchell's (1983) *Tests in Print.*

Numerous studies have replicated the reliability estimates from the PPVT-R's standardization sample (4200 children between two years, six months and eighteen years eleven months); Dunn and Dunn (1981) report a median split-half reliability of .80 (ranging from .67 to .88), a median parallel form reliability of .70 (ranging from .50 to .87), and a median nine to thirty-one day test-retest reliability of .78 (.52 to .90). Goldstein, Collier, Dill, and Tilis (1970) reported a twenty-one month test-retest reliability of .77 among thirty-six black preschoolers, using the original PPVT-R assessment.

The PPVT-R demonstrates a high construct validity with a variety of intelligence tests. Its median correlation with other vocabulary tests was .71 (based on 55 criterion validity coefficients, ranging from .20 to .89); with other individual intelligence tests it ranged from .38 to .72 (based on 291 correlations ranging from -.16 to .92). Its correlation was higher with the Binet and Wechsler tests than with less well established tests; and correlations were higher with verbal intelligence (.66 to .71) than with performance (.46 to .65; Dunn and Dunn, 1981).

Because it demonstrates high predictive validity with a variety of achievement measures, the PPVT, when combined with other information, is an extremely important predictor of early and middle school outcomes. Median correlation with math achievement was .50 (based on sixteen correlations ranging from .27 to .77 with the Wide Range Achievement Test [WRAT], California Achievement Test [CAT] and PIAT); with language achievement it was .44 (sixteen correlations, from .02 to .66 with the WRAT, PIAT, CAT and with the Metropolitan Achievement Test [MAT]); with reading comprehension it was .63 (seven correlations from .42 to .70 with the CAT and PIAT); and with reading recognition it was .38 (WRAT) and .52 ([PIAT] fourteen correlations ranging from .01 to .72; Dunn and Dunn, 1981).

Because of the limited sample of children completing the PPVT-R in 1990, our evaluation of the 1990 PPVT-R data is limited. The overall completion rate for those taking the PPVT-R in 1990 is 88 percent (Table 5.18.1). Also, as we had shown with the 1988 and 1986 data, there are substantial racial/ethnic differences in PPVT-R scores with both black and Hispanic youth scoring substantially lower than other white children (Tables 5.18.4 and 5.18.5). In analyses carried out with the 1986 sample, substantial racial/ethnic differences were maintained even after controlling (in multivariate analyses) for maternal education, family income and a variety of other factors.

Users may note one very important distinction between the PPVT-R and PIAT scores--a difference of particular interest to those who plan to concurrently use both assessments. Whereas the PIAT assessments had surprisingly high mean scores (see PIAT discussions) for a sample which includes a disproportionate number of disadvantaged children, the PPVT-R means are substantially below those of the norming sample. The NLSY PPVT-R sample has a mean standard score of about 93 and a standard deviation of about 18 (Table 5.18.4). Only the white sample had a mean approaching the overall national average of 100. This large differential between the NLSY PIAT and PPVT-R mean scores at least partly reflects the fact that the PPVT-R norming sample is relatively contemporary (1979), whereas the PIAT norming sample is from the late 1960s. The reader is referred to Baker and Mott (1989) for a more comprehensive evaluation of racial, ethnic and socio-economic differentials in PPVT-R scores using the 1986 NLSY data which included PPVT-R assessment scores for all children 3 and over. We anticipate carrying out a more comprehensive evaluation of the PPVT-R when the 1992 NLSY data become available, as in that data collection round all children age three and over were once again given the PPVT-R assessment.

Table 5.18.6 provides some useful insights regarding the reliability and validity of the PPVT-R. For the limited sample of children who completed the PPVT-R in 1986 and 1990 (essentially children who are 10 or 11 in 1990), the cross-year zero order correlation between PPVT-R scores is a substantial .66, not much below the short-term test-retest reliability in some other studies reported above. 1990 PPVT-R scores also correlate between .5 and .6 with the various PIAT subscores, comparable to results from other studies; and as may be seen from the top panel of Table 5.18.6, the two and four year correlations with the PIAT Mathematics and Reading subscores are in the .4 range, with the four year correlations being essentially identical to the two year correlations. Generally, the strength of the associations is greater for the older children, and the PPVT-R mathematics correlations are virtually identical to the PPVT-R reading correlations. Finally, it should be noted that the PPVT-R has been among the most widely used of all the

NLSY child assessments; as of the summer of 1993, we are aware of about 70 papers or publications which have used this assessment as either an explanatory input or child outcome. A current listing of NLSY research that has used the PPVT-R data is available from CHRR.

References: PPVT-R

Costello, J. and F. Ali. 1971. "Reliability and Validity of PPVT Scores of Disadvantaged Preschool Children." Psychological Reports 28: 755-760.

Dunn, Lloyd M. and Leota M. Dunn. 1981. PPVT-Revise Manual. Circle Pines, Minnesota: American Guidance Service, Inc.

Dunn, Lloyd M., Eligio R. Padilla, Delia E. Lugo, and Leota M. Dunn. 1986. Test De Vocabulario en Imágenes Peabody (Peabody Picture Vocabulary Test), Adaptación Hispanoamericana. Circle Pines, Minnesota: American Guidance Service, Inc.

Goldstein, L., A. Collier, J. Dill, and H. Tilis. 1970. "The Effect of a Special Curriculum for Disadvantaged Children on Test-Retest Reliabilities of Three Standardized Instruments." Journal of Educational Measurement 1: 171-174.

Lamb, M., S. Garn, and M. Keating. 1981. "Correlations Between Sociability and Cognitive Performance Among Eight-Month-Olds." Child Development 52: 711-713.

Plant, W.T. and M.L. Southern. 1972. "The Intellectual and Achievement Effects of Pre-School Stimulation of Poverty Mexican-American Children." Genetic Psychology Monographs 86: 141-173.

PPVT-R Supplementary Norms Tables. 1981. Circle Pines, Minnesota: American Guidance Service, Inc.

Radin, N. 1971. "Maternal Warmth, Achievement Motivation, and Cognitive Functioning in Lower-Class Pre-School Children." Child Development 42: 1560-1565.

Robertson, Gary J. and Jay L. Eisenberg. 1981. PPVT-R Technical Supplement. Circle Pines, Minnesota: American Guidance Service, Inc.

Interviewer Remarks and Testing Environment

Each assessment in the Child Supplement is followed by a series of interviewer remarks designed to evaluate the environmental conditions which existed while that particular assessment was being given. Each set of interviewer remarks appears on the data file immediately following the relevant items from the appropriate Child Supplement assessment section. Sections 11 and 12 of the Child Supplement include a summary evaluation of the testing conditions completed by the interviewer immediately after assessing the child as well as a set of observations of the home environment. These evaluations are identified in the documentation by reference numbers E5252. - E5306. for the 1986 survey round; E7153. - E7208. for 1988; and E9260. - E9321. for 1990. Users are encouraged to consider these interviewer observations when evaluating quality issues associated with assessment reliability. In the vast majority of cases, interviewers indicated no particular problem and they viewed the interviewing environment as quite appropriate, indeed positive. Where an interview was prematurely terminated, the reason for this premature termination is frequently noted in the remarks section at the end of that particular section. Depending, of course, on one's research intentions, individual researchers can choose to exclude certain children from their study. For example, children in testing environments where there clearly was substantial interference or who appeared tired (perhaps because it was the last of several assessments which the child had taken) could be excluded from analyses.

It is worth noting that in some instances the interviewers neglected to complete the remarks section. This was particularly true in 1986. Thus, an individual user should proceed with caution when using an interviewer remarks section which suggests that no individuals were present, since this was an unlikely scenario where small children were being assessed. In addition, particularly with respect to those interviewer remarks questionnaire items which define the presence or absence of parents or siblings, a positive response (i.e., one or greater) indicates that this particular relation was present. However, the absence of that relation was often left blank and not coded zero.

Table 5.1 NLSY Child Data Collection Advisory Panels

NAME	AFFILIATION
1985	
Ann L. Brown	Department of Psychology University of Illinois
Joseph Campione	Department of Psychology University of Illinois
William E. Cross, Jr.	Department of Psychology Cornell University
Rochel Gelman	Department of Psychology University of Pennsylvania
Willard H. Hartup	Institute of Child Development University of Minnesota
Lois Hoffman	Department of Psychology University of Michigan
Jerome Kagan	Department of Psychology and Social Relations Harvard University
Luis M. Laosa	Educational Testing Service Princeton, New Jersey
Marian Radke-Yarrow	Laboratory of Developmental Psychology The National Institute of Health
Henry Ricciuti	Department of Human Development and Family Studies Cornell University
Barbara Starfield	Department of Health Care Organizations The Johns Hopkins University
Michael Yogman	Infant Health and Development Program Children's Hospital Boston, Massachusetts
Nicholas Zill	Child Trends, Inc. Washington, D.C.

Table 5.1 NLSY Child Data Collection Advisory Panels (continued)

NAME	AFFILIATION
1991	
P. Lindsay Chase-Lansdale	Chapin Hall Center for Children & Harris Graduate School of Public Policy Studies University of Chicago
Robert Michael	Graduate School of Public Policy Studies University of Chicago
Kristin Moore	Child Trends, Inc. Washington, D.C.
Henry Ricuitti	Department of Human Development Cornell University
Joseph Rodgers	Department of Psychology Duke University
Marguirite Stevenson	Child and Family Studies University of Wisconsin - Madison
Donna Strobino	Department of Maternal and Child Health John Hopkins University
Maxine Thompson	Department of Sociology, Anthropology and Social Work North Carolina State University
Kenneth Wolpin	Department of Economics University of Minnesota
1993	
Nan M. Astone	Department of Population Dynamics School of Hygiene & Public Health Johns Hopkins University
P. Lindsay Chase-Lansdale	Chapin Hall Center for Children & Harris Graduate School of Public Policy Studies University of Chicago
Robert E. Emery	Department of Psychology University of Virginia
Joseph L. Rodgers	Department of Psychology University of Oklahoma
Linda Waite	Population Research Center NORC University of Chicago
Kenneth I. Wolpin	Department of Economics New York University

Table 5.2 1986, 1988 and 1990 Child Assessment Scores Available

	RAW SCORE			STANDARD SCORE			PERCENTILE SCORE		
	1990	1988	1986	1990	1988	1986	1990	1988	1986
Total HOME Score[1]				E 9919	E 7919	E 5715	E 9916	E 7916	E 5712
0-2 Years	E 9900	E 7900	E 5700						
3-5 Years	E 9904	E 7904	E 5704						
6-9 Years	E 9908	E 7908	E 5708*						
10 & Over Years	E 9912	E 7912	E 5708*						
HOME Cognitive Stim. Score[1]				E 9920	E 7920	E 5716	E 9917	E 7917	E 5713
0-2 Years	E 9902	E 7902	E 5702						
3-5 Years	E 9906	E 7906	E 5706						
6-9 Years	E 9910	E 7910	E 5710*						
10 & Over Years	E 9914	E 7914	E 5710*						
HOME Emotional Support Scale[1]				E 9921	E 7921	E 5717	E 9918	E 7918	E 5714
0-2 Years	E 9903	E 7903	E 5703						
3-5 Years	E 9907	E 7907	E 5707						
6-9 Years	E 9911	E 7911	E 5711*						
10 & Over Years	E 9915	E 7915	E 5711*						
Temperament									
Activity	E 9922	E 7922	E 5718						
Predictability	E 9923	E 7923	E 5719						
Fearfulness	E 9924	E 7924	E 5720						
Positive Affect	E 9925	E 7925	E 5721						
Compliance	E 9926	E 7926	E 5722						
Insecure Attachment	E 9927	E 7927	E 5723						
Sociability	E 9928	E 7928	E 5724						
Difficulty Composite		E 7929	E 5725						
Difficulty Composite- Abbrev.	E 9929.10	E 7929.10	E 5725.10						
Neg. Hedonic Tone Composite	E 9930	E 7930	E 5726						
Friendliness Composite		E 7931	E 5727						
Friendliness - Abbrev.	E 9931.10	E 7931.10	E 5727.10						
Motor & Social Development	E 9932	E 7932	E 5728	E 9934	E7934	E 5730	E 9933	E 7933	E 5729
Same Gender				E 9936	E 7936	E 5732	E 9935	E 7935	E 5731

Table 5.2 1986, 1988 and 1990 Assessment Scores Available (continued)

	RAW SCORE			STANDARD SCORE			PERCENTILE SCORE		
	1990	1988	1986	1990	1988	1986	1990	1988	1986
Behavior Problems	E 9937	E 7937	E 5733	E 9951	E 7951	E 5747	E 9944	E 7944	E 5740
Antisocial	E 9938	E 7938	E 5734	E 9952	E 7952	E 5748	E 9945	E 7945	E 5741
Anxious/Depressed	E 9939	E 7939	E 5735	E 9953	E 7953	E 5749	E 9946	E 7946	E 5742
Headstrong	E 9940	E 7940	E 5736	E 9954	E 7954	E 5750	E 9947	E 7947	E 5743
Hyperactive	E 9941	E 7941	E 5737	E 9955	E 7955	E 5751	E 9948	E 7948	E 5744
Dependent	E 9942	E 7942	E 5738	E 9956	E 7956	E 5752	E 9949	E 7949	E 5745
Peer Conflict	E 9943	E 7943	E 5739	E 9957	E 7957	E 5753	E 9950	E 7950	E 5746
Behavior Problems Same Gender				E 9965	E 7965	E 5761	E 9958	E 7958	E 5754
Antisocial				E 9966	E 7966	E 5762	E 9959	E 7959	E 5755
Anxious/Depressed				E 9967	E 7967	E 5763	E 9960	E 7960	E 5756
Headstrong				E 9968	E 7968	E 5764	E 9961	E 7961	E 5757
Hyperactive				E 9969	E 7969	E 5765	E 9962	E 7962	E 5758
Dependent				E 9970	E 7970	E 5766	E 9963	E 7963	E 5759
Peer Conflict				E 9971	E 7971	E 5767	E 9964	E 7964	E 5760
Body Parts[1]		E 7972	E 5779		E 7975			E 7974	
Memory for Location[1]		E 7976	E 5781		E 7979	E 5784		E 7978	E 5783
Verbal Memory									
A + B	E 9972	E 7980	E 5785	E 9974	E 7982	E 5787	E 9973	E 7981	E 5786
C	E 9975	E 7983	E 5788	E 9977	E 7985	E 5790	E 9976	E 7984	E 5789
Self Perception									
Scholastic	E 9978	E 7986	E 5791						
Self Worth	E 9980	E 7988	E 5793						
Digit Span	E 9982	E 7990	E 5795	E 9985	E 7993	E 5798			
Forward	E 9983	E 7991	E 5796						
Backward	E 9984	E 7992	E 5797						
PIAT Math	E 9986	E 7994	E 5799	E 9988	E 7996	E 5801	E 9987	E 7995	E 5800
PIAT Reading Recognition	E 9989	E 7997	E 5802	E 9991	E 7999	E 5804	E 9990	E 7998	E 5803
PIAT Reading Comprehension	E 9992	E 8000	E 5805	E 9994	E 8002	E 5807	E 9993	E 8001	E 5806
PPVT	E 9996	E 8004	E 5809	E 9997	E 8005	E 5810	E 9998	E 8006	E 5811

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[1] Internal Norms provided

* 1986 HOME does not separate those over age 6 years into 6-9 and 10 and over categories

Table 5.3 1990 Child Assessment: Administration Pattern

	Mother Supplement (MS) or Child Supplement (CS) 1990
1. Assessments administered to All Age-Appropriate Children	
a) Motor and Social Development (under age 4)	MS
b) Temperament or "How My Child Acts" (under age 7)	MS
c) PIAT (all children age 5 and over)	CS
d) Self-Perception Profile for Children (SPPC) "What I Am Like" (age 8 and over)	CS
e) HOME (all children)	MS
f) Behavior Problems (age 4 and over)	MS
2. Assessments ONLY Given to Children who have become age eligible for the first time (i.e., no repeats)[1]	
a) Verbal Memory (age 4 thru 6)	CS
b) Digit Span (age 7 and over)	CS
c) PPVT (age 4 and over)	CS
3. Assessments Given to all Ten and Eleven-Year Olds (other than above)	
a) PPVT	CS
b) Digit Span	CS

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[1] Includes age eligible non-completers in 1986 or 1988

Table 5.4 Race/Ethnicity of Children Assessed in 1986, 1988 and 1990 by Single Year of Age: Percents and Frequencies

Age of Child at 1990	**PERCENT DISTRIBUTION**				**FREQUENCIES**			
Child Assessment Date	**Hispanic**	**Black**	**White**	**Total**	**Hispanic**	**Black**	**White**	**Total**
4 Years	17.5	33.2	49.3	100.0	37	70	104	211
5 Years	20.0	30.6	49.4	100.0	97	148	239	484
6 Years	21.4	32.9	45.6	100.0	91	140	194	425
7 Years	22.6	36.7	40.6	100.0	98	159	176	433
8 Years	28.5	33.8	37.7	100.0	123	146	163	432
9 Years	21.1	36.7	42.2	100.0	80	139	160	379
10 Years	18.9	41.3	39.8	100.0	66	144	139	349
11 Years	21.3	43.5	35.2	100.0	54	110	89	253
12 Years	21.8	46.1	32.1	100.0	42	89	62	193
13 Years	17.9	49.7	32.5	100.0	27	75	49	151
14 Years +	18.7	53.9	27.4	100.0	45	130	66	241
Total	21.4	38.0	40.6	100.0	760	1350	1441	3551

Table 5.5.1 The HOME: Components of Total HOME Score and Subscores, 1990

UNDER 3 YEARS			3 - 5 YEARS			6 - 9 YEARS			10 AND OVER		
Total	Cognitive Stimulation Subscore	Emotional Support Subscore	Total	Cognitive Stimulation Subscore	Emotional Support Subscore	Total	Cognitive Stimulation Subscore	Emotional Support Subscore	Total	Cognitive Stimulation Subscore	Emotional Support Subscore
MS900243	MS900243		MS900323	MS900323		MS900427	MS900427		MS900569	MS900569	
MS900245	MS900245		MS900325	MS900325		MS900429	MS900429		MS-Q2a,b,d,e (Rec)		MS-Q2a,b,d,e (Rec)
MS900247	MS900247		MS900327	MS900327		MS-Q3 a-d (Rec)		MS-Q3 a-d (Rec)	MS900615		MS900615
MS900249	MS900249		MS900329	MS900329		MS900439		MS900439	MS900621		MS900621
MS900251	MS900251		MS900331	MS900331		MS900441	MS900441		MS900623	MS900623	
MS900253	MS900253		MS900333	MS900333		MS900443	MS900443		MS900625	MS900625	
MS900255	MS900255		MS900335	MS900335		MS900445	MS900445		MS900627	MS900627	
MS900317		MS900317	MS900337	MS900337		MS900447	MS900447		MS900629	MS900629	
MS900319		MS900319	MS900341		MS900341	MS900449	MS900449		MS900631	MS900631	
MS900321		MS900321	MS900343		MS900343	MS900451	MS900451		MS900633	MS900633	
CS906113		CS906113	MS-Q8 (Rec)		MS-Q8 (Rec)	MS900453	MS900453		MS900635	MS900635	
CS906115		CS906115	MS900363	MS900363		MS900455		MS900455	MS900637		MS900637
CS906117		CS906117	MS900365	MS900365		MS900467		MS900467	MS900649		MS900649
CS906119		CS906119	MS900423		MS900423	MS900511		MS900511	MS900651		MS900651
CS906121		CS906121	MS900425		MS900425	MS900513		MS900513	MS900653		MS900653
CS906123	CS906123		CS906137		CS906137	MS900515	MS900515		MS900655	MS900655	
CS906125		CS906125	CS906139		CS906139	MS-Q21 (Rec)		MS-Q21 (Rec)	MS900659		MS900659
CS906127	CS906127		CS906141		CS906141	MS900553		MS900553	MS900729		MS900729
			CS906143		CS906143	CS906213		CS906213	CS906213		CS906213
			CS906145		CS906145	CS906215		CS906215	CS906215		CS906215
			CS906147		CS906147	CS906217		CS906217	CS906217		CS906217
			CS906149		CS906149	CS906219		CS906219	CS906219		CS906219
			CS906151	CS906151		CS906221		CS906221	CS906221		CS906221
			CS906153	CS906153		CS906223	CS906223		CS906223	CS906223	
			CS906155	CS906155		CS906225	CS906225		CS906225	CS906225	
			CS906157	CS906157		CS906227	CS906227		CS906227	CS906227	
			CS906229	CS906229		CS906229	CS906229				

Table 5.5.2 The HOME: Raw Scores by Child Age and Race/Ethnicity (1990 Sample Cases)

		0-9.9	10-12.9	13-15.9	16-18.9	19+	Valid	Total	% Valid
Age of Child									
Under 3 Years		78	219	536	348		1181	1328	88.9
3-5 Years		25	38	114	244	874	1295	1410	91.8
6-9 Years		25	92	208	371	974	1670	1769	94.4
10+ Years		12	75	158	309	659	1213	1296	93.6
Total		140	424	1016	1272	2507	5359	5803	92.3
Race of Child	**Age of Child**								
Hispanic	Under 3 Years	16	53	119	53		241	278	86.7
	3-5 Years	9	10	31	60	183	293	321	91.3
	6-9 Years	6	27	58	101	212	404	426	94.8
	10+ Years	4	16	30	72	132	254	279	91.0
	Total	35	106	238	286	527	1192	1304	91.4
Black	Under 3 Years	45	100	157	49		351	379	92.6
	3-5 Years	14	23	59	104	170	370	413	89.6
	6-9 Years	14	55	107	150	251	577	614	94.0
	10+ Years	8	49	109	165	223	554	588	94.2
	Total	81	227	432	468	644	1852	1994	92.9
White	Under 3 Years	17	66	260	246		589	671	87.8
	3-5 Years	2	5	24	80	521	632	676	93.5
	6-9 Years	5	10	43	120	511	689	729	94.5
	10+ Years		10	19	72	304	405	429	94.4
	Total	24	91	346	518	1336	2315	2505	92.4

Table 5.5.3 The HOME: Percentile Scores by Child Age and Race/Ethnicity (1990 Sample Cases)

		0	1-19	20-39	40-59	60-79	80-89	90-99	Valid	Total	% Valid
Age of Child											
Under 3 Years		40	216	301	203	219	145	59	1183	1331	88.9
3-5 Years		47	322	238	173	303	162	56	1301	1415	91.9
6-9 Years		37	387	352	212	389	164	119	1660	1759	94.4
10+ Years		21	312	216	211	243	131	74	1208	1291	93.6
Total		145	1237	1107	799	1154	602	308	5352	5796	92.3
Race of Child	**Age of Child**										
Hispanic	Under 3 Years	6	53	67	48	37	23	6	240	277	86.6
	3-5 Years	16	73	64	42	71	24	7	297	325	91.4
	6-9 Years	10	111	92	49	78	35	28	403	425	94.8
	10+ Years	6	61	51	41	52	23	17	251	276	90.9
	Total	38	298	274	180	238	105	58	1191	1303	91.4
Black	Under 3 Years	27	108	97	59	31	21	9	352	381	92.4
	3-5 Years	27	159	79	46	43	13	7	374	416	89.9
	6-9 Years	20	192	144	74	98	29	17	574	611	93.9
	10+ Years	14	209	107	94	88	29	11	552	586	94.2
	Total	88	668	427	273	260	92	44	1852	1994	92.9
White	Under 3 Years	7	55	137	96	151	101	44	591	673	87.8
	3-5 Years	4	90	95	85	189	125	42	630	674	93.5
	6-9 Years	7	84	116	89	213	100	74	683	723	94.5
	10+ Years	1	42	58	76	103	79	46	405	429	94.4
	Total	19	271	406	346	656	405	206	2309	2499	92.4

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Table 5.5.4 The HOME: Standard Scores by Child Age and Race/Ethnicity (1990 Sample Cases)

		0-84	85-99	100-114	115+	Valid	Total	% Valid
Age of Child								
Under 3 Years		241	329	471	140	1181	1328	88.9
3 Years		279	364	563	89	1295	1410	91.8
6-9 Years		393	517	543	217	1670	1769	94.4
10+ Years		324	331	426	132	1213	1296	93.6
Total		1237	1541	2003	578	5359	5803	92.3
Race of Child	**Age of Child**							
Hispanic	Under 3 Years	58	69	92	22	241	278	86.7
	3-5 Years	72	90	115	16	293	321	91.3
	6-9 Years	110	135	111	48	404	426	94.8
	10+ Years	66	72	90	26	254	279	91.0
	Total	306	366	408	112	1192	1304	91.4
Black	Under 3 Years	128	111	92	20	351	379	92.6
	3-5 Years	138	134	91	7	370	413	89.6
	6-9 Years	201	200	142	34	577	614	94.0
	10+ Years	214	163	148	29	554	588	94.2
	Total	681	608	473	90	1852	1994	92.9
White	Under 3 Years	55	149	287	98	589	671	87.8
	3-5 Years	69	140	357	66	632	676	93.5
	6-9 Years	82	182	290	135	689	729	94.5
	10+ Years	44	96	188	77	405	429	94.4
	Total	250	567	1122	376	2315	2505	92.4

Table 5.5.5 The HOME: Cognitive Stimulation Percentile Scores by Child Age and Race/Ethnicity (1990 Sample Cases)

		0	1-19	20-39	40-59	60-79	80-89	90-99	Valid	Total	% Valid
Age of Child											
Under 3 Years		11	259	199	129	344	57	126	1125	1141	98.6
3-5 Years		21	250	192	210	271	247		1191	1248	95.4
6-9 Years		14	336	361	236	365	167	92	1571	1633	96.2
10+ Years		15	320	151	192	196	154	127	1155	1192	96.9
Total		61	1165	903	767	1176	625	345	5042	5214	96.7
Race of Child	**Age of Child**										
Hispanic	Under 3 Years	5	73	50	20	63	5	16	232	235	98.7
	3-5 Years	7	72	55	40	51	38		263	277	94.9
	6-9 Years	3	109	81	58	71	32	19	373	394	94.7
	10+ Years	2	79	32	36	43	27	17	236	248	95.2
	Total	17	333	218	154	228	102	52	1104	1154	95.7
Black	Under 3 Years	6	103	67	37	70	6	29	318	324	98.1
	3-5 Years	12	107	59	56	60	33		327	343	95.3
	6-9 Years	8	149	140	74	111	38	18	538	557	96.6
	10+ Years	7	171	74	97	82	52	37	520	540	96.3
	Total	33	530	340	264	323	129	84	1703	1764	96.5
White	Under 3 Years		83	82	72	211	46	81	575	582	98.8
	3-5 Years	2	71	78	114	160	176		601	628	95.7
	6-9 Years	3	78	140	104	183	97	55	660	682	96.8
	10+ Years	6	70	45	59	71	75	73	399	404	98.8
	Total	11	302	345	349	625	394	209	2235	2296	97.3

Table 5.5.6 The HOME: Emotional Support Percentile Scores by Child Age and Race/Ethnicity (1990 Sample Cases)

		0	1-19	20-39	40-59	60-79	80-89	90-99	Valid	Total	% Valid
Age of Child											
Under 3 Years		12	219	167	85	300	142	46	971	1141	85.1
3-5 Years		11	277	206	219	243	137	52	1145	1248	91.7
6-9 Years		30	338	244	238	288	244	104	1486	1633	91.0
10+ Years		18	192	313	158	184	126	42	1033	1192	86.7
Total		71	1026	930	700	1015	649	244	4635	5214	88.9
Race of Child	**Age of Child**										
Hispanic	Under 3 Years	2	39	32	21	62	30	11	197	235	83.8
	3-5 Years	2	55	57	46	57	29	11	257	277	92.8
	6-9 Years	4	81	55	56	68	65	27	356	394	90.4
	10+ Years	2	33	61	33	44	26	17	216	248	87.1
	Total	10	208	205	156	231	150	66	1026	1154	88.9
Black	Under 3 Years	9	103	53	26	60	23	6	280	324	86.4
	3-5 Years	6	128	72	58	30	15	3	312	343	91.0
	6-9 Years	23	172	99	65	70	58	11	498	557	89.4
	10+ Years	14	139	153	63	50	33	5	457	540	84.6
	Total	52	542	377	212	210	129	25	1547	1764	87.7
White	Under 3 Years	1	77	82	38	178	89	29	494	582	84.9
	3-5 Years	3	94	77	115	156	93	38	576	628	91.7
	6-9 Years	3	85	90	117	150	121	66	632	682	92.7
	10+ Years	2	20	99	62	90	67	20	360	404	89.1
	Total	9	276	348	332	574	370	153	2062	2296	89.8

Table 5.5.7 The HOME: Standard Scores by Child Age and Race/Ethnicity (1990 Weighted Distribution)

		0-84	85-99	100-114	115+	Total	Mean	Std. Dev.
Age of Child								
Under 3 Years		14.5	26.5	44.8	14.2	100.0	100.0	15.0
3-5 Years		15.2	24.9	51.0	8.9	100.0	100.0	15.0
6-9 Years		17.2	28.7	37.8	16.3	100.0	100.0	15.0
10+ Years		18.9	26.1	40.5	14.4	100.0	100.0	15.0
Total		16.5	26.7	43.3	13.6	100.0	100.0	15.0
B								
Race of Child	Age of Child							
Hispanic	Under 3 Years	27.6	25.4	37.4	9.6	100.0	94.6	16.2
	3-5 Years	25.8	29.2	39.1	6.0	100.0	93.6	17.8
	6-9 Years	26.4	32.9	29.1	11.6	100.0	95.4	15.7
	10+ Years	23.5	28.2	37.8	10.5	100.0	96.9	15.9
	Total	25.8	29.4	35.2	9.7	100.0	95.2	16.4
Black	Under 3 Years	36.9	31.5	26.2	5.3	100.0	88.9	17.4
	3-5 Years	36.3	37.8	24.5	1.3	100.0	87.4	16.7
	6-9 Years	35.2	34.4	24.2	6.2	100.0	91.1	16.1
	10+ Years	38.0	29.3	27.4	5.3	100.0	91.6	15.2
	Total	36.6	32.9	25.6	4.8	100.0	90.1	16.3
White	Under 3 Years	9.3	25.7	48.8	16.2	100.0	102.5	13.3
	3-5 Years	10.3	22.1	57.0	10.6	100.0	102.9	12.8
	6-9 Years	11.6	26.7	42.3	19.4	100.0	102.8	13.6
	10+ Years	10.6	24.5	46.2	18.7	100.0	103.8	13.2
	Total	10.5	24.8	48.5	16.2	100.0	103.0	13.2

Table 5.5.8 The HOME: Percentile Scores by Child Age and Race/Ethnicity (1990 Weighted Distribution)

		1-19	20-39	40-59	60-79	80-89	90-99	Total	Mean	Std. Dev.
Age of Child										
Under 3 Years		13.8	25.1	17.0	22.7	15.3	6.1	100.0	53.2	27.7
3-5 Years		18.8	16.7	14.0	27.3	17.1	6.1	100.0	53.6	27.7
6-9 Years		17.8	19.5	12.9	28.3	12.4	9.0	100.0	52.7	28.5
10+ Years		18.8	16.6	18.3	23.0	14.6	8.8	100.0	52.1	29.0
Total		17.4	19.4	15.3	25.6	14.7	7.6	100.0	52.9	28.2
Race of Child	**Age of Child**									
Hispanic	Under 3 Years	26.6	25.2	20.8	15.1	8.8	3.5	100.0	43.0	28.8
	3-5 Years	26.5	22.9	13.8	25.2	8.3	3.4	100.0	44.3	27.7
	6-9 Years	27.1	24.1	11.5	22.0	8.5	6.9	100.0	43.6	29.4
	10+ Years	22.2	21.0	16.5	23.9	9.1	7.3	100.0	47.4	29.0
	Total	25.6	23.3	15.1	21.7	8.7	5.6	100.0	44.6	28.9
Black	Under 3 Years	33.7	29.9	18.6	8.6	6.5	2.6	100.0	35.0	27.2
	3-5 Years	43.7	25.0	14.2	12.6	3.0	1.4	100.0	32.0	24.5
	6-9 Years	35.0	26.2	12.4	18.0	4.9	3.4	100.0	36.7	27.8
	10+ Years	38.6	19.3	17.3	16.8	5.9	2.1	100.0	36.2	27.5
	Total	37.7	24.3	15.4	14.9	5.2	2.5	100.0	35.3	27.0
White	Under 3 Years	9.3	24.3	16.4	25.8	17.3	6.9	100.0	57.2	26.2
	3-5 Years	13.8	14.7	13.9	30.1	20.2	7.2	100.0	58.2	26.2
	6-9 Years	12.5	17.3	13.2	31.6	14.7	10.6	100.0	57.7	26.8
	10+ Years	10.5	14.9	18.9	25.3	18.8	11.6	100.0	59.0	26.9
	Total	11.7	17.8	15.3	28.6	17.6	9.0	100.0	57.9	26.5

Table 5.5.9 The HOME: Cognitive Stimulation Standard Scores by Child Age and Race/Ethnicity (1990 Weighted Distribution)

		0-84	85-99	100-114	115+	Total	Mean	Std. Dev.
Age of Child								
Under 3 Years		16.7	31.0	34.4	17.9	100.0	100.0	15.0
3-5 Years		14.0	18.8	60.4	6.9	100.0	100.0	15.0
6-9 Years		17.4	22.9	46.1	13.6	100.0	100.0	15.0
10+ Years		15.1	37.6	33.0	14.2	100.0	100.0	15.0
Total		15.9	27.1	44.0	13.1	100.0	100.0	15.0
Race of Child	**Age of Child**							
Hispanic	Under 3 Years	30.6	35.7	24.1	9.7	100.0	93.0	16.7
	3-5 Years	30.0	25.2	41.4	3.4	100.0	91.4	19.3
	6-9 Years	30.6	24.8	37.9	6.8	100.0	94.5	16.0
	10+ Years	21.7	41.2	29.6	7.5	100.0	95.9	15.0
	Total	28.2	31.2	33.7	6.8	100.0	93.9	16.8
Black	Under 3 Years	33.6	35.4	21.1	9.9	100.0	91.7	17.7
	3-5 Years	31.1	26.4	41.3	1.2	100.0	89.9	18.8
	6-9 Years	30.8	25.4	36.5	7.3	100.0	94.0	15.8
	10+ Years	22.1	44.5	26.5	6.8	100.0	95.1	15.3
	Total	28.6	33.5	31.5	6.4	100.0	93.1	16.7
White	Under 3 Years	12.4	29.8	37.7	20.1	100.0	102.1	13.5
	3-5 Years	9.3	16.8	65.6	8.2	100.0	102.7	12.5
	6-9 Years	12.5	22.0	49.5	16.0	100.0	102.2	14.1
	10+ Years	11.5	34.4	36.0	18.1	100.0	102.5	14.3
	Total	11.5	25.0	48.1	15.4	100.0	102.3	13.6

Table 5.5.10 The HOME: Cognitive Stimulation Percentile Scores by Child Age and Race/Ethnicity (1990 Weighted Distribution)

		0	1-19	20-39	40-59	60-79	80-89	90-99	Total	Mean	Std. Dev.
Age of Child											
Under 3 Years		0.4	18.8	15.1	12.3	33.6	6.7	13.2	100.0	53.0	28.6
3-5 Years		0.9	15.4	13.8	18.5	25.2	26.2		100.0	54.5	26.6
6-9 Years		0.7	15.9	22.2	15.5	25.5	13.0	7.3	100.0	52.5	28.6
10+ Years		1.3	22.3	12.4	16.3	17.4	16.1	14.3	100.0	52.3	29.2
Total		0.8	17.9	16.3	15.7	25.4	15.5	8.4	100.0	53.0	28.3
Race of Child	**Age of Child**										
Hispanic	Under 3 Years	1.9	34.5	19.3	9.7	23.5	2.1	8.9	100.0	39.7	29.7
	3-5 Years	2.9	27.6	21.1	14.0	19.5	14.9		100.0	41.9	28.7
	6-9 Years	0.6	29.4	22.4	14.8	19.2	9.4	4.2	100.0	42.0	29.5
	10+ Years	0.6	30.7	13.9	16.6	17.7	12.7	7.7	100.0	45.2	28.5
	Total	1.4	30.4	19.4	14.0	19.8	9.9	5.2	100.0	42.3	29.2
Black	Under 3 Years	1.8	32.8	20.0	11.7	22.4	2.1	9.2	100.0	39.9	29.5
	3-5 Years	3.2	31.7	17.7	19.2	19.2	9.0		100.0	38.9	27.4
	6-9 Years	1.7	27.2	25.4	14.1	20.8	6.8	4.0	100.0	41.7	28.6
	10+ Years	1.3	31.5	13.4	19.7	16.5	10.6	7.0	100.0	43.4	28.2
	Total	1.9	30.5	19.0	15.5	19.4	7.7	5.1	100.0	41.4	28.5
White	Under 3 Years		15.0	13.9	12.7	36.4	7.9	14.2	100.0	56.3	27.3
	3-5 Years	0.3	11.5	12.5	18.8	26.7	30.1		100.0	58.3	24.9
	6-9 Years	0.4	11.5	21.4	16.0	27.4	14.9	8.4	100.0	56.3	27.4
	10+ Years	1.3	17.6	11.8	15.0	17.6	18.6	18.0	100.0	56.6	28.7
	Total	0.5	13.6	15.4	15.7	27.4	17.9	9.5	100.0	56.9	27.0

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Table 5.5.11 The HOME: Emotional Support Standard Scores by Child Age and Race/Ethnicity (1990 Weighted Distribution)

		0-84	85-99	100-114	115+	Total	Mean	Std. Dev.
Age of Child								
Under 3 Years		14.2	32.0	33.2	20.6	100.0	100.0	15.0
3-5 Years		14.4	23.5	42.7	19.4	100.0	100.0	15.0
6-9 Years		15.5	29.5	43.3	11.7	100.0	100.0	15.0
10+ Years		14.7	29.3	36.2	19.9	100.0	100.0	15.0
Total		14.8	28.4	39.4	17.4	100.0	100.0	15.0
Race of Child	**Age of Child**							
Hispanic	Under 3 Years	18.0	31.7	30.1	20.2	100.0	99.0	15.7
	3-5 Years	16.9	30.3	38.5	14.3	100.0	97.3	15.9
	6-9 Years	18.8	27.7	43.1	10.4	100.0	98.6	15.9
	10+ Years	16.0	28.6	35.4	20.0	100.0	99.7	15.8
	Total	17.5	29.3	37.7	15.5	100.0	98.6	15.8
Black	Under 3 Years	34.2	37.5	19.3	9.0	100.0	89.4	18.2
	3-5 Years	34.5	34.9	25.8	4.8	100.0	89.1	15.2
	6-9 Years	33.0	34.4	28.1	4.4	100.0	91.1	16.9
	10+ Years	35.7	32.4	23.5	8.4	100.0	90.8	16.2
	Total	34.4	34.4	24.7	6.5	100.0	90.3	16.6
White	Under 3 Years	10.2	31.0	36.0	22.7	100.0	102.1	13.4
	3-5 Years	10.6	20.8	46.1	22.5	100.0	102.2	14.0
	6-9 Years	10.8	28.5	47.1	13.7	100.0	102.3	13.5
	10+ Years	6.4	28.2	41.1	24.2	100.0	103.6	12.8
	Total	9.8	26.9	43.1	20.2	100.0	102.5	13.5

Table 5.5.12 The HOME: Emotional Support Percentile Scores by Child Age and Race/Ethnicity (1990 Weighted Distribution)

		0	1-19	20-39	40-59	60-79	80-89	90-99	Total	Mean	Std. Dev.
Age of Child											
Under 3 Years		0.7	18.9	17.6	7.8	33.9	15.8	5.2	100.0	53.2	28.1
3-5 Years		0.7	19.8	15.6	19.7	24.4	14.3	5.5	100.0	52.4	28.1
6-9 Years		1.2	18.0	15.3	17.4	21.7	17.8	8.4	100.0	52.6	28.4
10+ Years		1.3	12.9	29.3	15.8	20.7	15.6	4.5	100.0	52.2	29.0
Total		1.0	17.5	19.0	15.6	24.8	16.0	6.1	100.0	52.6	28.4
Race of Child	**Age of Child**										
Hispanic	Under 3 Years	1.3	21.5	15.6	10.5	30.6	15.5	5.1	100.0	51.0	29.3
	3-5 Years	0.6	21.2	22.5	17.3	23.5	10.6	4.3	100.0	48.5	27.5
	6-9 Years	1.3	22.4	13.9	18.0	18.1	19.1	7.2	100.0	50.2	29.5
	10+ Years	1.4	12.7	28.9	15.0	21.4	13.2	7.4	100.0	52.7	29.4
	Total	1.2	19.6	19.9	15.7	22.5	15.0	6.2	100.0	50.6	29.0
Black	Under 3 Years	3.4	37.3	19.8	8.5	21.0	7.7	2.2	100.0	36.8	28.3
	3-5 Years	1.9	41.1	23.8	18.1	9.9	4.3	0.8	100.0	32.7	24.8
	6-9 Years	4.4	34.7	20.0	13.1	14.1	11.5	2.1	100.0	37.1	28.6
	10+ Years	2.9	31.8	32.8	12.8	11.2	7.4	1.2	100.0	35.2	28.8
	Total	3.3	35.5	24.8	13.2	13.5	8.1	1.6	100.0	35.6	27.9
White	Under 3 Years	0.2	15.5	17.4	7.4	36.4	17.2	5.7	100.0	56.1	27.0
	3-5 Years	0.6	16.0	13.6	20.2	26.9	16.3	6.4	100.0	56.1	27.3
	6-9 Years	0.4	13.6	14.4	18.4	23.9	19.2	10.1	100.0	56.6	26.9
	10+ Years	0.7	5.8	28.1	17.0	24.2	19.0	5.3	100.0	58.6	26.4
	Total	0.5	13.2	17.5	16.1	27.6	17.9	7.2	100.0	56.7	26.9

Table 5.5.13 Reliability of the HOME, BPI and SPPC Assessment Scores, 1990

Assessment	Sample Size	No. of Items	Cronbach's Alpha
Home Observation for Measurement of the Environment (HOME)			
Age 1 month to 2 years, 11 months			
Total HOME	921	18	.55
Cognitive Stimulation	953	9	.50
Emotional Support	974	9	.35
Age 3 years to 5 years, 11 months			
Total HOME	904	26	.73
Cognitive Stimulation	1022	14	.72
Emotional Support	1124	12	.54
Age 6 years to 9 years, 11 months			
Total HOME	1403	27	.73
Cognitive Stimulation	1531	14	.67
Emotional Support	1487	13	.61
Age 10+ years			
Total HOME	983	27	.68
Cognitive Stimulation	1132	13	.62
Emotional Support	1026	14	.58
Behavioral Problems Index (BPI)			
Total - Never in school	497	26	.88
Total - Ever in school	3302	28	.88
Antisocial - Never in school	497	4	.57
Antisocial - Ever in school	3302	6	.67
Anxious	3970	5	.65
Headstrong	3975	5	.71
Hyperactive	3973	5	.69
Dependent	3990	4	.62
Peer Conflict	3993	3	.57
Self-Perception Profile for Children (SPPC)			
Global Self-Worth	1987	6	.67
Scholastic Competence	1999	6	.69

Table 5.5.14 The HOME: Within-Year Correlations with Other Assessments, 1990

	PIAT Mathematics	PIAT Reading Recognition	PIAT Reading Comprehension	Digit Span	S.P.P.C. Scholastic Competence	S.P.P.C. Global Self-Worth	PPVT	Verbal Memory
Total HOME Score								
All Children	.29	.30	.31	.21	.18	.19		
5-7 years[3]	.32	.27	.25				.47	.21
8-9 years[2]	.28	.36	.39	.19	.14	.22		
10-12 years[1]	.28	.29	.28	.23	.24	.22	.37	
13 years and Over	.25	.22	.23		.21	.08*		
Cognitive Stimulation Subscore								
All Children	.25	.27	.29	.20	.18	.15		
5-7 years[3]	.31	.27	.28				.40	.18
8-9 years[2]	.22	.29	.33	.17	.11	.15		
10-12 years[1]	.23	.26	.27	.23	.27	.21	.29	
13 years and Over	.23	.21	.23		.18	.02*		
Emotional Support Subscore								
All Children	.21	.20	.18	.15	.12	.17		
5-7 years[3]	.17	.12	.08				.38	.17
8-9 years[2]	.25	.29	.30	.12	.12	.22		
10-12 years[1]	.19	.19	.14	.14	.10	.16	.32	
13 years and Over	.19	.16	.18		.17	.11		

Note: [1] Age 10-11 for Digit Span and PPVT

[2] Age 7-9 for Digit Span

[3] Age 4 for PPVT and Verbal Memory

Table 5.5.15 The HOME: Within-Year Correlations, 1990

	Total HOME Score	Cognitive Stimulation Subscore	Emotional Support Subscore
Total HOME Score			
All Children	---	.83	.78
0-2 Years	---	.80	.77
3-5 Years	---	.84	.82
6-9 Years	---	.85	.76
10 Years and Over	---	.83	.77
Cognitive Stimulation Subscore			
All Children	.83	---	.33
0-2 Years	.80	---	.27
3-5 Years	.84	---	.41
6-9 Years	.85	---	.33
10 Years and Over	.83	---	.32
Emotional Support Subscore			
All Children	.78	.33	---
0-2 Years	.77	.27	---
3-5 Years	.82	.41	---
6-9 Years	.76	.33	---
10 Years and Over	.77	.32	---

Table 5.5.16 The HOME: Cross-Year Correlations

	TOTAL HOME SCORE		COGNITIVE STIMULATION SUBSCORE		EMOTIONAL SUPPORT SUBSCORE	
1986 HOME Scores	**1988**	**1990**	**1988**	**1990**	**1988**	**1990**
Total HOME Score						
All Children	.54	.45	.48	.41	.41	.32
0-2 Years	.45	.40	.41	.32	.34	.33
3-5 Years	.62	.51	.54	.49	.49	.32
6-9 Years	.59	.44	.52	.41	.43	.29
10 Years and Over	.59	.50	.46	.44	.51	.36
Cognitive Stimulation Subscore						
All Children	.46	.41	.46	.42	.29	.23
0-2 Years	.37	.37	.36	.22	.25	.26
3-5 Years	.54	.48	.54	.51	.36	.25
6-9 Years	.49	.39	.53	.45	.25	.16
10 Years and Over	.55	.40	.49	.37	.38	.27
Emotional Support Subscore						
All Children	.39	.30	.27	.21	.38	.28
0-2 Years	.35	.28	.27	.20	.31	.29
3-5 Years	.44	.32	.31	.25	.43	.26
6-9 Years	.42	.27	.25	.17	.44	.29
10 Years and Over	.33	.39	.17	.26	.39	.36

Table 5.5.17 HOME Cognitive Stimulation: Cross-Year Correlations with PIAT Assessments

	PIAT MATHEMATICS		PIAT READING RECOGNITION		PIAT READING COMPREHENSION	
Age in 1986	**1988**	**1990**	**1988**	**1990**	**1988**	**1990**
HOME Cognitive Stimulation 1986						
All Children	.24	.28	.22	.30	.22	.28
3-5 Years	.30	.36	.26	.38	.26	.37
6-9 Years	.16	.16	.14	.15	.14	.14
10 Years and Over	.29	.28	.27	.40	.30	.32

Table 5.5.18 HOME Emotional Support: Cross-Year Correlations with Behavior Problems Index

Age in 1986	TOTAL BEHAVIOR PROBLEMS		ANTI-SOCIAL		ANXIOUS/ DEPRESSED		DEPENDENT		HEADSTRONG		HYPERACTIVE		PEER CONFLICT	
	1988	1990	1988	1990	1988	1990	1988	1990	1988	1990	1988	1990	1988	1990
HOME Emotional Support 1986														
All Children	-.12	-.09	-.15	-.12	-.09	-.05	-.08	-.04[a]	-.08	-.05	-.06	-.07	-.07	-.08
2-4 Years	-.14	-.13	-.15	-.16	-.09	-.07	-.08	-.09	-.11	-.09	-.05[a]	-.12	-.08	-.06
5-7 Years	-.13	-.08	-.18	-.16	-.13	-.06[a]	-.06	-.03[a]	-.08	-.05[a]	-.08	-.06[a]	-.09	-.12
8-9 Years	-.11	-.07[a]	-.13[a]	-.01[a]	-.02	-.05[a]	-.12	---	-.04[a]	-.05[a]	-.12	-.08[a]	-.04[a]	-.11[a]
10 Years and Over	.01[a]	---	-.04[a]	---	.02[a]	---	---	---	.01[a]	---	.02[a]	---	-.04[a]	---

Note: a = not significant at $p < .05$.

Table 5.6.1 Motor and Social Development: Percentile Scores by Child Age and Race/Ethnicity (1990 Sample Cases)

		0-19	20-39	40-59	60-79	80-89	90-99	Valid	Total	% Valid
Age of Child										
Under 1 Year		65	73	82	71	34	35	360	409	88.0
1 Year		64	57	92	87	51	47	398	457	87.1
2 Years		74	86	70	94	41	76	441	462	95.5
3 Years		97	88	105	49	55	8	402	435	92.4
Total		300	304	349	301	181	166	1601	1763	90.8
Race of Child	**Age of Child**									
Hispanic	Under 1 Year	13	18	15	13	6	7	72	80	90.0
	1 Year	15	13	24	17	3	7	79	94	84.0
	2 Years	30	20	11	18	3	16	98	104	94.2
	3 Years	35	24	18	9	12	2	100	105	95.2
	Total	93	75	68	57	24	32	349	383	91.1
Black	Under 1 Year	18	15	30	19	11	8	101	112	90.2
	1 Year	24	13	19	30	17	13	116	139	83.5
	2 Years	20	18	22	37	12	13	122	128	95.3
	3 Years	27	23	35	10	7	1	103	118	87.3
	Total	89	69	106	96	47	35	442	497	88.9
White	Under 1 Year	34	40	37	39	17	20	187	217	86.2
	1 Year	25	31	49	40	31	27	203	224	90.6
	2 Years	24	48	37	39	26	47	221	230	96.1
	3 Years	35	41	52	30	36	5	199	212	93.9
	Total	118	160	175	148	110	99	810	883	91.7

Table 5.6.2 Motor and Social Development: Percentile Scores for Female Children by Child Age and Race/Ethnicity (1990 Sample Cases)

		0-19	20-39	40-59	60-79	80-89	90-99	Valid	Total	% Valid
Age of Child										
Under 1 Year		33	33	26	29	23	20	164	183	89.6
1 Year		32	26	38	35	29	26	186	219	84.9
2 Years		42	36	37	37	30	20	202	214	94.4
3 Years		44	42	43	18	45		192	205	93.7
Total		151	137	144	119	127	66	744	821	90.6
Race of Child	**Age of Child**									
Hispanic	Under 1 Year	8	7	7	5	5	3	35	38	92.1
	1 Year	7	5	12	4	1	5	34	42	81.0
	2 Years	14	7	5	10	5	4	45	47	95.7
	3 Years	16	16	3	2	8		45	46	97.8
	Total	45	35	27	21	19	12	159	173	91.9
Black	Under 1 Year	9	4	7	10	7	3	40	44	90.9
	1 Year	13	8	7	16	13	6	63	76	82.9
	2 Years	14	6	15	15	6	4	60	64	93.8
	3 Years	12	10	19	3	6		50	56	89.3
	Total	48	28	48	44	32	13	213	240	88.8
White	Under 1 Year	16	22	12	14	11	14	89	101	88.1
	1 Year	12	13	19	15	15	15	89	101	88.1
	2 Years	14	23	17	12	19	12	97	103	94.2
	3 Years	16	16	21	13	31		97	103	94.2
	Total	58	74	69	54	76	41	372	408	91.2

Table 5.6.3 Motor and Social Development: Percentile Scores for Male Children by Child Age and Race/Ethnicity (1990 Sample Cases)

		0-19	20-39	40-59	60-79	80-89	90-99	Valid	Total	% Valid
Age of Child										
Under 1 Year		37	39	46	44	11	19	196	226	86.7
1 Year		26	40	46	55	26	19	212	238	89.1
2 Years		44	40	39	35	37	35	230	248	92.7
3 Years		55	36	50	32	18	9	200	230	87.0
Total		162	155	181	166	92	82	838	942	89.0
Race of Child	**Age of Child**									
Hispanic	Under 1 Year	6	10	7	8	2	4	37	42	88.1
	1 Year	5	12	11	13	2	2	45	52	86.5
	2 Years	19	12	4	5	4	6	50	57	87.7
	3 Years	19	9	10	8	5	3	54	59	91.5
	Total	49	43	32	34	13	15	186	210	88.6
Black	Under 1 Year	10	12	17	12	3	7	61	68	89.7
	1 Year	9	8	10	14	5	7	53	63	84.1
	2 Years	7	12	11	15	8	6	59	64	92.2
	3 Years	16	9	11	8	4	1	49	62	79.0
	Total	42	41	49	49	20	21	222	257	86.4
White	Under 1 Year	21	17	22	24	6	8	98	116	84.5
	1 Year	12	20	25	28	19	10	114	123	92.7
	2 Years	18	16	24	15	25	23	121	127	95.3
	3 Years	20	18	29	16	9	5	97	109	89.0
	Total	71	71	100	83	59	46	430	475	90.5

Table 5.6.4 Motor and Social Development: Percentile Scores by Child Age and Race/Ethnicity (1990 Weighted Distribution)

		0-19	20-39	40-59	60-79	80-89	90-99	Total	Mean	Std. Dev.
Age of Child										
Under 1 Year		19.0	19.3	21.2	20.8	9.5	10.1	100.0	51.2	28.1
1 Year		13.9	14.1	24.0	20.3	14.6	13.2	100.0	56.5	28.3
2 Years		13.1	20.6	17.1	19.5	10.5	19.2	100.0	56.0	28.8
3 Years		20.0	20.5	26.2	14.1	17.0	2.2	100.0	48.1	27.7
Total		16.4	18.6	22.0	18.7	12.9	11.4	100.0	53.0	28.5
Race of Child	**Age of Child**									
Hispanic	Under 1 Year	18.7	23.5	21.7	16.9	11.1	8.1	100.0	49.0	28.6
	1 Year	18.7	16.8	27.9	22.7	3.5	10.4	100.0	48.5	26.5
	2 Years	31.5	18.9	12.4	17.3	2.9	17.0	100.0	45.2	31.7
	3 Years	34.6	23.2	18.4	7.9	14.2	1.7	100.0	38.9	28.6
	Total	26.8	20.7	19.4	15.8	8.0	9.4	100.0	45.0	29.4
Black	Under 1 Year	19.0	12.2	29.7	21.2	11.1	6.9	100.0	51.4	27.3
	1 Year	19.4	13.2	15.1	25.0	15.6	11.7	100.0	55.7	30.1
	2 Years	17.0	13.1	20.0	29.7	9.5	10.7	100.0	53.8	27.4
	3 Years	26.0	20.3	33.0	10.2	9.5	1.0	100.0	41.1	26.6
	Total	20.3	14.7	24.1	21.8	11.4	7.7	100.0	50.7	28.5
White	Under 1 Year	19.1	20.1	19.8	21.1	9.1	10.8	100.0	51.3	28.2
	1 Year	12.5	14.0	25.2	19.3	15.3	13.7	100.0	57.3	28.1
	2 Years	10.7	22.0	17.1	18.1	11.4	20.8	100.0	57.4	28.5
	3 Years	17.5	20.2	25.9	15.4	18.5	2.4	100.0	50.2	27.4
	Total	14.8	19.1	22.0	18.4	13.6	12.2	100.0	54.2	28.2

Table 5.6.5 Motor and Social Development: Percentile Scores for Female Children by Child Age and Race/Ethnicity (1990 Weighted Distribution)

		0-19	20-39	40-59	60-79	80-89	90-99	Total	Mean	Std. Dev.
Age of Child										
Under 1 Year		19.8	20.6	14.7	17.2	13.2	14.5	100.0	53.5	29.4
1 Year		15.0	13.7	21.3	17.6	15.9	16.4	100.0	57.8	29.2
2 Years		16.7	21.6	17.8	15.4	17.4	11.1	100.0	54.2	30.0
3 Years		20.1	16.5	23.0	11.5	28.9		100.0	48.2	28.7
Total		17.9	18.1	19.3	15.4	19.0	10.3	100.0	53.4	29.5
Race of Child	**Age of Child**									
Hispanic	Under 1 Year	23.0	17.4	19.5	13.0	17.6	9.6	100.0	50.4	31.5
	1 Year	18.4	13.8	38.6	11.3	1.9	15.9	100.0	49.0	27.4
	2 Years	33.6	11.3	9.6	21.0	10.4	14.1	100.0	48.9	32.8
	3 Years	35.3	29.8	8.4	4.5	22.0		100.0	35.6	28.3
	Total	28.6	18.5	17.1	12.6	13.9	9.4	100.0	45.5	30.9
Black	Under 1 Year	22.3	8.8	15.7	27.8	18.4	7.0	100.0	56.8	27.7
	1 Year	20.1	14.1	11.0	23.3	20.0	11.5	100.0	56.1	30.0
	2 Years	23.4	11.5	23.3	25.5	10.0	6.4	100.0	50.0	29.2
	3 Years	26.0	20.8	35.7	6.0	11.6		100.0	37.7	24.1
	Total	22.8	13.8	20.9	20.9	15.0	6.6	100.0	50.4	29.0
White	Under 1 Year	19.1	22.6	14.2	16.1	12.0	16.0	100.0	53.4	29.4
	1 Year	13.7	13.6	22.3	16.9	16.0	17.5	100.0	58.7	29.0
	2 Years	13.7	24.5	17.6	13.0	19.5	11.7	100.0	55.5	29.7
	3 Years	17.7	14.5	22.5	13.1	32.2		100.0	51.0	28.7
	Total	16.0	18.8	19.2	14.7	20.2	11.1	100.0	54.6	29.4

Table 5.6.6 Motor and Social Development: Percentile Scores for Male Children by Child Age and Race/Ethnicity (1990 Weighted Distribution)

		0-19	20-39	40-59	60-79	80-89	90-99	Total	Mean	Std. Dev.
Age of Child										
Under 1 Year		21.3	17.5	23.4	23.6	6.1	8.1	100.0	49.1	27.5
1 Year		11.6	16.8	21.8	25.0	15.4	9.4	100.0	56.1	27.6
2 Years		16.0	15.4	19.3	13.4	18.3	17.6	100.0	58.4	28.4
3 Years		22.0	18.8	27.3	16.3	9.8	5.7	100.0	47.6	26.6
Total		17.5	17.0	22.8	19.4	12.8	10.5	100.0	53.2	27.9
Race of Child	**Age of Child**									
Hispanic	Under 1 Year	17.8	24.0	22.3	22.5	6.7	6.6	100.0	47.2	26.1
	1 Year	13.5	25.2	22.3	27.7	4.4	6.9	100.0	49.0	25.8
	2 Years	34.9	25.1	10.9	11.9	7.4	9.9	100.0	42.1	29.7
	3 Years	34.4	15.7	22.7	12.6	8.0	6.6	100.0	42.0	28.9
	Total	26.1	22.3	19.2	18.1	6.7	7.6	100.0	44.8	28.0
Black	Under 1 Year	17.6	17.9	29.7	20.7	4.0	10.1	100.0	48.3	27.5
	1 Year	15.3	17.2	17.1	26.0	10.7	13.7	100.0	55.0	30.0
	2 Years	11.6	19.3	19.1	25.3	14.6	10.3	100.0	56.5	26.1
	3 Years	29.3	17.3	18.5	18.4	8.5	8.0	100.0	45.1	28.9
	Total	18.3	18.0	21.2	22.6	9.4	10.5	100.0	51.2	28.5
White	Under 1 Year	22.3	16.9	22.3	24.2	6.4	7.9	100.0	49.4	27.6
	1 Year	10.9	16.0	22.4	24.6	17.0	9.1	100.0	56.8	27.3
	2 Years	14.9	13.9	20.2	11.9	19.9	19.3	100.0	60.3	28.1
	3 Years	19.4	19.5	29.3	16.4	10.2	5.3	100.0	48.7	25.8
	Total	16.5	16.4	23.3	19.0	13.9	10.8	100.0	54.3	27.7

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Table 5.6.7 Motor and Social Development: Standard Scores by Child Age and Race/Ethnicity (1990 Weighted Distribution)

		0-84	85-99	100-114	115+	Total	Mean	Std. Dev.
Age of Child								
Under 1 Year		13.7	33.1	38.1	15.0	100.0	100.6	13.9
1 Year		10.7	26.9	38.0	24.4	100.0	103.3	14.5
2 Years		7.4	35.6	30.9	26.1	100.0	103.4	14.5
3 Years		16.2	29.7	35.3	18.8	100.0	98.5	13.7
Total		11.8	31.4	35.4	21.4	100.0	101.6	14.3
Race of Child	**Age of Child**							
Hispanic	Under 1 Year	15.7	29.6	44.2	10.6	100.0	99.2	15.0
	1 Year	14.5	42.9	29.6	12.9	100.0	99.2	13.9
	2 Years	21.8	32.5	28.1	17.5	100.0	98.0	15.9
	3 Years	27.6	35.3	21.3	15.9	100.0	94.3	14.1
	Total	20.5	34.8	30.1	14.6	100.0	97.5	14.9
Black	Under 1 Year	12.3	29.7	49.2	8.8	100.0	100.4	13.6
	1 Year	13.3	27.2	34.4	25.2	100.0	102.8	15.2
	2 Years	10.7	32.5	43.5	13.3	100.0	101.4	13.9
	3 Years	23.0	30.2	36.1	10.8	100.0	95.1	13.7
	Total	14.7	29.9	40.6	14.8	100.0	100.1	14.4
White	Under 1 Year	13.8	34.0	35.8	16.5	100.0	100.7	13.9
	1 Year	10.0	25.6	39.3	25.1	100.0	103.7	14.4
	2 Years	5.4	36.4	29.1	29.1	100.0	104.3	14.3
	3 Years	13.9	29.0	36.6	20.5	100.0	99.5	13.4
	Total	10.6	31.3	35.1	23.1	100.0	102.2	14.2

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Table 5.6.8 Motor and Social Development: Standard Scores by Maternal Characteristics and Age of Child (1990 Weighted Distribution)

		0-84	85-99	100-114	115+	Total	Mean	Std. Dev.
Maternal Education	**Age of Child**							
< 12 Years	Under 1 Year	21.2	31.4	35.5	11.9	100.0	97.6	15.1
	1 Year	14.9	23.9	41.4	19.9	100.0	102.0	15.7
	2 Years	13.9	38.9	29.7	17.5	100.0	99.4	14.4
	3 Years	31.5	24.0	33.6	10.9	100.0	93.4	14.3
	Total	20.2	29.3	35.2	15.3	100.0	98.2	15.2
12 Years	Under 1 Year	15.0	25.3	43.2	16.5	100.0	102.1	13.7
	1 Year	8.9	31.3	36.4	23.4	100.0	102.9	15.1
	2 Years	6.8	30.9	36.4	25.9	100.0	103.2	16.3
	3 Years	16.1	29.0	38.3	16.6	100.0	98.3	13.8
	Total	11.4	29.5	38.1	21.0	100.0	101.6	15.0
13+ Years	Under 1 Year	11.2	37.7	36.0	15.1	100.0	100.5	13.7
	1 Year	12.0	24.8	36.1	27.1	100.0	102.8	17.7
	2 Years	6.5	38.1	26.6	28.8	100.0	104.2	14.9
	3 Years	9.6	33.1	32.6	24.7	100.0	101.1	12.8
	Total	9.8	33.7	32.8	23.6	100.0	102.2	15.0
Mother's Age at Birth of Child	**Age of Child**							
20-24 Years	1 Year	9.1	24.5	42.4	23.9	100.0	103.5	13.7
	2 Years	7.1	31.8	29.1	32.0	100.0	104.5	14.0
	3 Years	14.1	29.3	41.7	14.9	100.0	97.7	13.5
	Total	11.1	29.5	37.6	21.8	100.0	100.7	14.1
25-29 Years	Under 1 Year	13.6	33.1	39.6	13.7	100.0	100.1	14.1
	1 Year	11.4	28.6	36.8	23.2	100.0	102.1	17.0
	2 Years	7.3	36.3	29.8	26.6	100.0	103.2	16.4
	3 Years	15.9	29.1	32.5	22.6	100.0	99.7	13.6
	Total	11.8	31.9	34.4	21.9	100.0	101.4	15.5
Over 30 Years	Under 1 Year	14.8	32.0	36.0	17.2	100.0	101.3	13.8
	1 Year	11.5	24.9	36.2	27.3	100.0	104.0	15.3
	2 Years	10.6	35.9	42.1	11.4	100.0	100.1	12.3
	3 Years	37.0	46.6	16.4		100.0	89.6	14.3
	Total	13.8	30.8	36.3	19.0	100.0	101.6	14.4

Table 5.6.9 Motor and Social Development: Standard Scores for Female Children by Child Age and Race/Ethnicity (1990 Weighted Distribution)

		0-84	85-99	100-114	115+	Total	Mean	Std. Dev.
Age of Child								
Under 1 Year		12.3	32.7	34.4	20.5	100.0	101.9	13.9
1 Year		9.0	23.4	36.6	31.0	100.0	105.7	14.6
2 Years		5.5	32.9	30.3	31.4	100.0	105.2	14.9
3 Years		15.0	21.5	35.6	27.9	100.0	100.7	14.5
Total		10.4	27.6	34.2	27.9	100.0	103.4	14.7
Race of Child	**Age of Child**							
Hispanic	Under 1 Year	19.5	26.8	39.2	14.4	100.0	99.0	17.0
	1 Year	14.2	39.7	27.7	18.4	100.0	101.2	15.0
	2 Years	15.0	27.1	33.3	24.7	100.0	101.9	16.4
	3 Years	23.6	41.5	12.9	22.0	100.0	95.0	13.9
	Total	18.3	33.3	28.1	20.3	100.0	99.2	15.9
Black	Under 1 Year	7.3	26.4	59.3	7.0	100.0	102.2	12.4
	1 Year	10.5	25.0	35.4	29.0	100.0	104.6	14.5
	2 Years	14.2	26.7	41.7	17.4	100.0	102.3	14.5
	3 Years	18.7	27.3	42.3	11.7	100.0	96.6	13.0
	Total	12.7	26.3	43.5	17.5	100.0	101.6	14.1
White	Under 1 Year	12.4	34.2	30.3	23.1	100.0	102.1	13.7
	1 Year	8.3	22.0	37.5	32.2	100.0	106.2	14.6
	2 Years	2.8	34.6	27.8	34.7	100.0	106.1	14.7
	3 Years	13.5	18.6	36.8	31.0	100.0	102.0	14.6
	Total	9.2	27.3	33.1	30.4	100.0	104.1	14.5

Table 5.6.10 Motor and Social Development: Standard Scores for Female Children by Maternal Characteristics and Age of Child (1990 Weighted Distribution)

		0-84	85-99	100-114	115+	Total	Mean	Std. Dev.
Maternal Education	**Age of Child**							
< 12 Years	Under 1 Year	11.8	23.4	36.5	28.3	100.0	103.7	16.0
	1 Year	10.8	17.0	38.2	34.0	100.0	103.9	19.4
	2 Years	12.3	45.2	19.4	23.1	100.0	98.4	18.0
	3 Years	36.6	45.0	18.4		100.0	88.4	24.4
	Total	18.3	33.2	27.6	20.9	100.0	98.3	21.0
12 Years	Under 1 Year	10.6	34.5	34.9	20.0	100.0	102.6	13.2
	1 Year	10.6	19.1	39.8	30.4	100.0	105.6	15.1
	2 Years	10.5	31.5	34.9	23.1	100.0	101.1	18.4
	3 Years	21.5	41.7	16.7	20.0	100.0	97.3	17.3
	Total	13.6	32.0	31.0	23.4	100.0	101.4	16.7
13+ Years	Under 1 Year	13.5	33.7	33.5	19.2	100.0	101.2	15.3
	1 Year	15.3	22.1	39.6	23.0	100.0	101.7	17.1
	2 Years	6.8	36.3	19.7	37.2	100.0	103.8	16.0
	3 Years	8.4	39.5	40.6	11.5	100.0	101.0	14.3
	Total	11.2	32.9	33.4	22.6	100.0	101.9	15.7
Mother's Age at Birth of Child	**Age of Child**							
20-24 Years	1 Year	14.3	17.4	39.6	28.8	100.0	102.9	14.1
	2 Years	9.9	34.2	31.0	24.9	100.0	102.0	15.8
	3 Years	23.3	44.5	17.1	15.1	100.0	94.7	21.9
	Total	16.9	36.5	25.7	20.8	100.0	98.7	19.1
25-29 Years	Under 1 Year	11.9	31.6	37.7	18.8	100.0	101.8	15.0
	1 Year	12.2	19.4	39.0	29.4	100.0	104.5	16.7
	2 Years	10.3	33.4	24.9	31.4	100.0	101.7	19.2
	3 Years	13.7	39.9	33.2	13.2	100.0	99.9	15.1
	Total	12.1	31.3	33.5	23.1	100.0	101.9	16.7
Over 30 Years	Under 1 Year	14.5	33.6	29.2	22.7	100.0	101.7	14.6
	1 Year	13.1	22.6	40.4	23.9	100.0	102.1	18.0
	2 Years	3.3	50.1	23.8	22.7	100.0	100.7	12.3
	3 Years	66.2	28.4	5.4		100.0	79.8	12.6
	Total	14.1	32.7	30.9	22.2	100.0	100.8	15.9

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Table 5.6.11 Motor and Social Development: Standard Scores by for Male Children by Child Age and Race/Ethnicity (1990 Weighted Distribution)

	0-84	85-99	100-114	115+	Total	Mean	Std. Dev.
Age of Child							
Under 1 Year	13.7	33.1	38.1	15.0	100.0	100.6	13.9
1 Year	10.7	26.9	38.0	24.4	100.0	103.3	14.5
2 Years	7.4	35.6	30.9	26.1	100.0	103.4	14.5
3 Years	16.2	29.7	35.3	18.8	100.0	98.5	13.7
Total	11.8	31.4	35.4	21.4	100.0	101.6	14.3

Race of Child	**Age of Child**	0-84	85-99	100-114	115+	Total	Mean	Std. Dev.
Hispanic	Under 1 Year	15.7	29.6	44.2	10.6	100.0	99.2	15.0
	1 Year	14.5	42.9	29.6	12.9	100.0	99.2	13.9
	2 Years	21.8	32.5	28.1	17.5	100.0	98.0	15.9
	3 Years	27.6	35.3	21.3	15.9	100.0	94.3	14.1
	Total	20.5	34.8	30.1	14.6	100.0	97.5	14.9
Black	Under 1 Year	12.3	29.7	49.2	8.8	100.0	100.4	13.6
	1 Year	13.3	27.2	34.4	25.2	100.0	102.8	15.2
	2 Years	10.7	32.5	43.5	13.3	100.0	101.4	13.9
	3 Years	23.0	30.2	36.1	10.8	100.0	95.1	13.7
	Total	14.7	29.9	40.6	14.8	100.0	100.1	14.4
White	Under 1 Year	13.8	34.0	35.8	16.5	100.0	100.7	13.9
	1 Year	10.0	25.6	39.3	25.1	100.0	103.7	14.4
	2 Years	5.4	36.4	29.1	29.1	100.0	104.3	14.3
	3 Years	13.9	29.0	36.6	20.5	100.0	99.5	13.4
	Total	10.6	31.3	35.1	23.1	100.0	102.2	14.2

Table 5.6.12 Motor and Social Development: Standard Scores for Male Children by Maternal Characteristics and Age of Child (1990 Weighted Distribution)

		0-84	85-99	100-114	115+	Total	Mean	Std. Dev.
Maternal Education	**Age of Child**							
< 12 Years	Under 1 Year	30.0	36.4	32.1	1.6	100.0	93.2	13.0
	1 Year	14.1	31.6	45.1	9.2	100.0	99.5	15.3
	2 Years	15.5	25.6	45.5	13.4	100.0	99.9	13.1
	3 Years	22.1	39.7	30.6	7.6	100.0	94.0	18.3
	Total	19.9	33.2	38.8	8.2	100.0	96.9	15.4
12 Years	Under 1 Year	19.1	16.7	51.4	12.7	100.0	101.6	14.8
	1 Year	12.3	31.4	38.2	18.1	100.0	101.2	14.1
	2 Years	7.5	23.8	36.6	32.1	100.0	105.4	14.4
	3 Years	16.5	39.0	32.5	12.0	100.0	98.1	12.5
	Total	13.2	28.8	38.4	19.6	100.0	101.6	14.2
13+ Years	Under 1 Year	12.4	32.8	45.8	9.0	100.0	99.9	13.4
	1 Year	9.3	18.3	43.2	29.2	100.0	103.7	19.7
	2 Years	1.5	34.0	34.7	29.9	100.0	105.5	14.4
	3 Years	9.2	44.6	23.2	23.1	100.0	100.7	12.6
	Total	8.0	32.0	37.6	22.4	100.0	102.5	15.4
Mother's Age at Birth of Child	**Age of Child**							
20-24 Years	1 Year	17.2	12.4	53.7	16.8	100.0	103.7	13.2
	2 Years	6.5	23.8	28.4	41.3	100.0	107.1	14.4
	3 Years	11.1	39.4	36.8	12.7	100.0	98.7	12.1
	Total	10.4	31.8	36.2	21.5	100.0	101.7	13.5
25-29 Years	Under 1 Year	17.7	29.1	43.6	9.6	100.0	98.9	14.1
	1 Year	11.3	29.3	42.5	16.9	100.0	100.4	17.8
	2 Years	5.1	30.0	35.5	29.4	100.0	105.1	14.4
	3 Years	17.0	41.3	25.0	16.7	100.0	98.7	13.1
	Total	12.0	31.9	37.0	19.0	100.0	101.1	15.3
Over 30 Years	Under 1 Year	14.9	27.3	50.4	7.4	100.0	100.7	13.6
	1 Year	10.2	20.5	35.8	33.5	100.0	105.6	14.6
	2 Years	11.0	25.6	60.7	2.7	100.0	98.1	11.6
	3 Years	9.6	63.6		26.8	100.0	91.3	31.1
	Total	12.2	26.0	44.3	17.5	100.0	101.7	15.3

Table 5.6.13 Motor and Social Development: Within-Year Correlations with HOME Scores, 1990

	Total HOME Score	Cognitive Stimulation Subscore	Emotional Support Subscore
Motor/Social Score			
All Children	.22	.21	.13
Under 1 Year	.24	.26	.10
1 Year	.20	.17	.13
2 Years	.19	.14	.14
3 Years	.26	.29	.16

Table 5.6.14 Motor and Social Development: Cross-Year Correlations

	Motor and Social Development 1986
Motor and Social Development, 1988	.29
Behavior Problems, 1988	
Total	-.17
Antisocial	-.15
Anxious/Depressed	-.09
Dependent	-.08
Headstrong	-.13
Hyperactive	-.10
Peer Conflict	-.16
Behavior Problems, 1990	
Total	-.12
Antisocial	-.10
Anxious/Depressed	-.05[a]
Dependent	-.09
Headstrong	-.12
Hyperactive	-.12
Peer Conflict	-.09
PIAT Math, 1990	.21
PIAT Reading Recognition, 1990	.22
PIAT Reading Comprehension, 1990	.22

Note: a = not significant at $p < .05$.

Table 5.7.1 Temperament: Components of Subscores, 1990

Activity (0-11 Months)	Predictability (0-11 Months)	Fearfulness (0-11 Months)	Fearfulness (12-23 Months)	Positive Affect (0-11 Months)	Positive Affect (12-23 Months)	Compliance (2-6 Years)	Insecure Attachment (2-6 Years)
MS900745	MS900751	MS900757	MS900817	MS900765	MS900825	MS900839	MS900863
MS900747	MS900753	MS900759	MS900819	MS900767	MS900827	MS900841	MS900865
MS900749	MS900755	MS900761	MS900821	MS900769	MS900829	MS900843(R)	MS900911
		MS900763	MS900823			MS900845	MS900913
						MS900847	MS900915
						MS900849	MS900917
							MS900919

Sociability (4 Years - 6 Years)	Difficulty Composite - Abbrev.* (0-11 Months)	Difficulty Composite - Abbrev.* (12-23 Months)	Negative Hedonic Tone* (0-11 Months)	Negative Hedonic Tone* (12-23 Months)	Friendliness - Abbrev.** (0-11 Months)	Friendliness - Abbrev.** (12-23 Months)
CS906021	MS900751(R)	MS900817	MS900757	MS900817	MS900771(R)	MS900831(R)
CS906023	MS900753(R)	MS900819	MS900759	MS900819	MS900811(R)	MS900833(R)
CS906027	MS900755(R)	MS900821	MS900761	MS900821	MS900813(R)	MS900835(R)
	MS900757	MS900823	MS900763	MS900823	MS900815(R)	MS900837(R)
	MS900759	MS900825(R)	MS900765(R)	MS900825(R)		
	MS900761	MS900827(R)	MS900767(R)	MS900827(R)		
	MS900763	MS900829(R)	MS900769(R)	MS900829(R)		
	MS900765(R)	MS900831	MS900771	MS900831		
	MS900767(R)	MS900833	MS900811	MS900833		
	MS900769(R)	MS900835	MS900813	MS900835		
	MS900771	MS900837	MS900815	MS900837		
	MS900811					
	MS900813					
	MS900815					

* Note that for children 12-23 months, the Negative Hedonic Tone and Difficulty Composite-Abbreviated subscales have identical components.

** Since children under the age of 4 years did not complete any of the assessments in the Child Supplement in 1990, the CS interviewer report items that were included in the 1986 and 1988 versions of these variables were frequently not completed by the interviewer and thus are excluded from the construction of the 1990 abbreviated subscores. Revised public use versions of these variables for 1986 and 1988 are included in the 1990 public release.

Table 5.7.2 Temperament: Composition of Subscales, 1990

Age	Subscale	Components	Ref No.
0-11 Months	Activity		E9922.
		Squirms & kicks during feeding	E9670.
		Waves arms during feeding	E9671.
		Moves during sleep	E9672.
	Predictability		E9923.
		Gets sleepy at same time	E9673.
		Gets hungry at same time	E9674.
		Wakes in the same mood	E9675.
	Fearfulness		E9924.
		Turns away & cries at stranger	E9676.
		Turns away & cries at animal	E9677.
		Cries when left alone	E9678.
		Turns away & cries at Dr.	E9679.
	Positive Affect		E9925.
		Smiles/laughs when playing with mother	E9680.
		Smiles/laughs when playing alone	E9681.
		Smiles/laughs when in the bath	E9682.
	Friendliness (Abbreviated)		E9931.10
		Cries when hears sudden noise (R)	E9683.
		Trouble soothing or calming (R)	E9684.
		On average, gets fussy/ irritable (R)	E9685.
		Compared with others, gets fussy/irritable (R)	E9686.
	Difficulty Composite (Abbreviated)	Predictability (R), Fearfulness, Positive Affect (R), Friendliness (R)	E9929.10
	Negative Hedonic Tone Composite	Fearfulness, Affect (R), Friendliness (R)	E9930.
12-23 Months	Fearfulness		
		Turns away & cries at stranger	E9924.
		Turns away & cries at animal	E9687.
		Cries when left alone	E9688.
		Turns away & cries at Dr.	E9689.
	Positive Affect		E9690.
		Smiles/laughs when playing with mother	E9925.
		Smiles/laughs when playing alone	E9691.
		Smiles/laughs when in the bath	E9692.
	Friendliness (Abbreviated)		E9693.
		Cries when hears sudden noise (R)	E9931.10
		Trouble soothing or calming (R)	E9694.
		On average, gets fussy and irritable (R)	E9695.
		Compared w/others, gets fussy/	E9696.
		irritable (R)	E9697.

Table 5.7.2 Temperament: Composition of Subscales, 1990 (continued)

Age	Subscale	Components	Ref No.
	Difficulty Composite (Abbreviated)	Fearfulness, Positive Affect (R), Friendliness (R)	E9929.10
	Negative Hedonic Tone Composite	Same as difficulty composite (ABB.)	E9930.
2-6 Years	Compliance		E9926.
		Eats food given	E9698.
		If does not eat, complies when told to eat	E9699.
		Protests going to bed (R)	E9700.
		Protests, goes to bed when told again	E9701.
		Turns off TV when told without protest	E9702.
		Protests, turns off TV when told again	E9703.
	Insecure Attachment		E9927.
		Trouble soothing or calming	E9710.
		Stays close to mother during play	E9711.
		Copies mother's behavior	E9712.
		Cries when left alone	E9713.
		Demanding & impatient when mother is busy	E9714.
		Gets worried when mother is upset	E9715
		Wants help	E9716.
4-6 Years	Sociability		E9928.
		Int rating of attitude to testing	E9260.
		Int rating of rapport w/interviewer	E9261.
		Int rating of cooperation	E9263.

Note: (R) denotes that items were reversed in scoring, i.e. "1 to 5" was recoded "5 to 1."

Table 5.7.3 Temperament: Activity Raw Scores for Children Under One Year of Age (1990 Sample Cases)

	1-4	5-9	10-14	15-19	Valid	Total	% Valid
Total	38	206	119	30	393	409	96.1
Race of Child							
Hispanic	9	44	18	6	77	80	96.3
Black	12	44	39	14	109	112	97.3
White	17	118	62	10	207	217	95.4

Table 5.7.4 Temperament: Predictability Raw Scores for Children Under One Year of Age (1990 Sample Cases)

	1-4	5-9	10-14	15-19	Valid	Total	% Valid
Total	2	48	216	126	392	409	95.8
Race of Child							
Hispanic		12	47	18	77	80	96.3
Black	2	21	60	26	109	112	97.3
White		15	109	82	206	217	94.9

Table 5.7.5 Temperament: Fearfulness Raw Scores by Child Age and Race/Ethnicity (1990 Sample Cases)

		1-4	5-9	10-14	15-19	20	Valid	Total	% Valid
Age of Child									
Under 1 Year		60	219	82	14	3	378	409	92.4
1 Year		44	218	121	60	3	446	457	97.6
Total		104	437	203	74	6	824	866	95.2
Race of Child	**Age of Child**								
Hispanic	Under 1 Year	11	45	16	2		74	80	92.5
	1 Year	9	41	27	13	1	91	94	96.8
	Total	20	86	43	15	1	165	174	94.8
Black	Under 1 Year	18	48	29	7	1	103	112	92.0
	1 Year	13	54	40	29	1	137	139	98.6
	Total	31	102	69	36	2	240	251	95.6
White	Under 1 Year	31	126	37	5	2	201	217	92.6
	1 Year	22	123	54	18	1	218	224	97.3
	Total	53	249	91	23	3	419	441	95.0

Table 5.7.6 Temperament: Positive Affect Raw Scores by Child Age and Race/Ethnicity (1990 Sample Cases)

		1-4	5-9	10-14	15-19	Valid	Total	% Valid
Age of Child								
Under 1 Year		12	46	223	103	384	409	93.9
1 Year		1	8	259	180	448	457	98.0
Total		13	54	482	283	832	866	96.1
Race of Child	**Age of Child**							
Hispanic	Under 1 Year	5	10	36	26	77	80	96.3
	1 Year		2	49	40	91	94	96.8
	Total	5	12	85	66	168	174	96.6
Black	Under 1 Year	2	10	58	34	104	112	92.9
	1 Year	1	3	73	60	137	139	98.6
	Total	3	13	131	94	241	251	96.0
White	Under 1 Year	5	26	129	43	203	217	93.5
	1 Year		3	137	80	220	224	98.2
	Total	5	29	266	123	423	441	95.9

Table 5.7.7 Temperament: Friendliness Composite Raw Scores by Child Age and Race/Ethnicity (1990 Sample Cases)

		5-9	10-14	15-19	20-24	Valid	Total	% Valid
Age of Child								
Under 1 Year		7	113	255	15	390	409	95.4
1 Year		7	117	296	25	445	457	97.4
Total		14	230	551	40	835	866	96.4
Race of Child	**Age of Child**							
Hispanic	Under 1 Year	.	25	47	5	77	80	96.3
	1 Year	2	18	65	6	91	94	96.8
	Total	2	43	112	11	168	174	96.6
Black	Under 1 Year	4	41	59	4	108	112	96.4
	1 Year	4	52	75	5	136	139	97.8
	Total	8	93	134	9	244	251	97.2
White	Under 1 Year	3	47	149	6	205	217	94.5
	1 Year	1	47	156	14	218	224	97.3
	Total	4	94	305	20	423	441	95.9

Table 5.7.8 Temperament: Difficulty Composite-Abbreviated Raw Scores by Child Age and Race/Ethnicity (1990 Sample Cases)

		10-19	20-29	30-39	40-49	Valid	Total	% Valid
Age of Child								
Under 1 Year		49	196	105	24	374	409	91.4
1 Year		169	228	45	1	443	457	96.9
Total		218	424	150	25	817	866	94.3
Race of Child	**Age of Child**							
Hispanic	Under 1 Year	7	41	20	6	74	80	92.5
	1 Year	35	47	9		91	94	96.8
	Total	42	88	29	6	165	174	94.8
Black	Under 1 Year	7	45	35	13	100	112	89.3
	1 Year	41	70	25		136	139	97.8
	Total	48	115	60	13	236	251	94.0
White	Under 1 Year	35	110	50	5	200	217	92.2
	1 Year	93	111	11	1	216	224	96.4
	Total	128	221	61	6	416	441	94.3

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Table 5.7.9 Temperament: Negative Hedonic Tone Composite Raw Scores by Child Age and Race/Ethnicity (1990 Sample Cases)

		10-14	15-19	20-24	25-29	30+	Valid	Total	% Valid
Age of Child									
Under 1 Year		31	109	123	71	40	374	409	91.4
1 Year		48	121	138	90	46	443	457	96.9
Total		79	230	261	161	86	817	866	94.3
Race of Child	**Age of Child**								
Hispanic	Under 1 Year	5	19	30	13	7	74	80	92.5
	1 Year	11	24	28	19	9	91	94	96.8
	Total	16	43	58	32	16	165	174	94.8
Black	Under 1 Year	6	25	33	19	17	100	112	89.3
	1 Year	9	32	39	31	25	136	139	97.8
	Total	15	57	72	50	42	236	251	94.0
White	Under 1 Year	20	65	60	39	16	200	217	92.2
	1 Year	28	65	71	40	12	216	224	96.4
	Total	48	130	131	79	28	416	441	94.3

Table 5.7.10 Temperament: Compliance Raw Scores by Child Age and Race/Ethnicity (1990 Sample Cases)

		5-9	10-14	15-19	20-24	25-29	30+	Valid	Total	% Valid
Age of Child										
2 Years		1	29	66	155	155	20	426	462	92.2
3 Years		1	24	87	154	132	19	417	435	95.9
4 Years			17	89	159	158	26	449	458	98.0
5 Years			16	80	178	184	46	504	517	97.5
6 Years		2	14	66	132	191	36	441	453	97.4
Total		4	100	388	778	820	147	2237	2325	96.2
Race of Child	**Age of Child**									
Hispanic	2 Years		5	18	31	33	5	92	104	88.5
	3 Years		9	25	31	29	8	102	105	97.1
	4 Years		5	17	29	36	12	99	104	95.2
	5 Years		3	15	50	30	10	108	112	96.4
	6 Years	1	6	17	33	32	8	97	100	97.0
	Total	1	28	92	174	160	43	498	525	94.9
Black	2 Years		11	23	40	41	5	120	128	93.8
	3 Years		8	26	47	31	3	115	118	97.5
	4 Years		7	37	50	35	5	134	137	97.8
	5 Years		11	35	46	53	9	154	158	97.5
	6 Years	1	7	27	38	54	17	144	148	97.3
	Total	1	44	148	221	214	39	667	689	96.8
White	2 Years	1	13	25	84	81	10	214	230	93.0
	3 Years	1	7	36	76	72	8	200	212	94.3
	4 Years		5	35	80	87	9	216	217	99.5
	5 Years		2	30	82	101	27	242	247	98.0
	6 Years		1	22	61	105	11	200	205	97.6
	Total	2	28	148	383	446	65	1072	1111	96.5

Table 5.7.11 Temperament: Sociability Raw Scores by Child Age and Race/Ethnicity (1990 Sample Cases)

		1-4	5-9	10-14	15-19	Valid	Total	% Valid
Age of Child								
4 Years		15	113	167	133	428	458	93.4
5 Years		3	96	198	184	481	517	93.0
6 Years		1	73	179	164	417	453	92.1
Total		19	282	544	481	1326	1428	92.9
Race of Child	**Age of Child**							
Hispanic	4 Years	2	23	43	30	98	104	94.2
	5 Years	2	25	44	34	105	112	93.8
	6 Years		15	45	30	90	100	90.0
	Total	4	63	132	94	293	316	92.7
Black	4 Years	5	41	41	41	128	137	93.4
	5 Years		38	52	57	147	158	93.0
	6 Years	1	30	58	48	137	148	92.6
	Total	6	109	151	146	412	443	93.0
White	4 Years	8	49	83	62	202	217	93.1
	5 Years	1	33	102	93	229	247	92.7
	6 Years		28	76	86	190	205	92.7
	Total	9	110	261	241	621	669	92.8

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Table 5.7.12 Temperament: Insecure Attachment Raw Scores by Child Age and Race/Ethnicity (1990 Sample Cases)

		5-9	10-14	15-19	20-24	25-29	30+	Valid	Total	% Valid
Age of Child										
2 Years		3	45	168	143	75	9	443	462	95.9
3 Years		3	60	162	154	38	12	429	435	98.6
4 Years		6	63	200	144	35	3	451	458	98.5
5 Years		9	111	202	141	34	8	505	517	97.7
6 Years		6	105	182	120	17	5	435	453	96.0
Total		27	384	914	702	199	37	2263	2325	97.3
Race of Child	**Age of Child**									
Hispanic	2 Years	2	12	29	31	20	3	97	104	93.3
	3 Years	1	14	27	42	15	5	104	105	99.0
	4 Years	1	12	37	41	9		100	104	96.2
	5 Years	1	22	40	35	10	1	109	112	97.3
	6 Years		24	33	25	12	2	96	100	96.0
	Total	5	84	166	174	66	11	506	525	96.4
Black	2 Years	1	5	47	42	24	3	122	128	95.3
	3 Years	1	17	37	46	10	3	114	118	96.6
	4 Years	3	13	59	42	15	3	135	137	98.5
	5 Years	5	27	54	48	13	5	152	158	96.2
	6 Years	4	27	58	46	3	2	140	148	94.6
	Total	14	89	255	224	65	16	663	689	96.2
White	2 Years		28	92	70	31	3	224	230	97.4
	3 Years	1	29	98	66	13	4	211	212	99.5
	4 Years	2	38	104	61	11		216	217	99.5
	5 Years	3	62	108	58	11	2	244	247	98.8
	6 Years	2	54	91	49	2	1	199	205	97.1
	Total	8	211	493	304	68	10	1094	1111	98.5

Table 5.7.13 Reliability of Temperament Assessment Scores, 1990

Age	Subscale	No. of Items	Sample Size	Cronbach's Alpha
0-11 months	Activity	3	393	.70
	Predictability	3	402	.62
	Fearfulness	4	388	.64
	Positive Affect	3	394	.77
	Difficulty Composite--Abbreviated	14	383	.67
	Negative Hedonic Tone Composite	11	383	.64
	Friendliness--Abbreviated	4	400	.56
12-23 months	Fearfulness	4	446	.65
	Positive Affect	3	463	.49
	Difficulty Composite--Abbreviated*	11	457	.65
	Negative Hedonic Tone Composite*	11	457	.65
	Friendliness--Abbreviated	4	460	.54
24-83 months	Compliance	6	2237	.59
	Insecure Attachment	7	2284	.52
48-83 months	Sociability	3	1326	.93

* Note that for children 12-23 months, the Negative Hedonic Tone and Difficulty Composite-Abbreviated subscales have identical components.

Table 5.7.14 Reliability of Revised Temperament Assessment Scores, 1986 and 1988

Age	Subscale	No. of Items	Sample Size	Cronbach's Alpha
1986				
0-11 months	Difficulty Composite--Abbreviated	14	535	.63
	Friendliness--Abbreviated	4	558	.47
12-23 months	Difficulty Composite--Abbreviated	11	604	.69
	Friendliness--Abbreviated	4	610	.54
1988				
0-11 months	Difficulty Composite--Abbreviated	14	519	.62
	Friendliness--Abbreviated	4	549	.55
12-23 months	Difficulty Composite--Abbreviated	11	506	.61
	Friendliness--Abbreviated	4	512	.50

Table 5.7.15 Temperament: Activity Raw Scores for Children Under One Year of Age (1990 Weighted Distribution)

	1-4	5-9	10-14	15-19	Total	Mean	Std. Dev.
Total	9.1	54.4	30.2	6.3	100.0	8.5	3.3
Race of Child							
Hispanic	13.1	54.7	23.5	8.7	100.0	8.5	3.4
Black	11.6	40.6	34.8	13.0	100.0	9.4	3.6
White	8.3	56.6	30.1	5.0	100.0	8.4	3.2

Table 5.7.16 Temperament: Predictability Raw Scores for Children Under One Year of Age (1990 Weighted Distribution)

	1-4	5-9	10-14	15-19	Total	Mean	Std. Dev.
Total	0.2	9.5	54.6	35.7	100.0	12.9	2.2
Race of Child							
Hispanic		17.8	60.6	21.6	100.0	12.2	2.4
Black	1.6	17.1	58.4	22.9	100.0	11.8	2.7
White		7.6	53.5	38.9	100.0	13.2	2.1

Table 5.7.17 Temperament: Fearfulness Raw Scores by Child Age and Race/Ethnicity (1990 Weighted Distribution)

		1-4	5-9	10-14	15-19	20	Total	Mean	Std. Dev.
Age of Child									
Under 1 Year		15.4	59.7	20.2	3.5	1.1	100.0	7.7	3.4
1 Year		9.9	52.9	25.8	10.7	0.7	100.0	9.0	3.9
Total		12.5	56.1	23.2	7.3	0.9	100.0	8.4	3.7
Race of Child	**Age of Child**								
Hispanic	Under 1 Year	14.3	54.7	27.8	3.2		100.0	8.1	3.3
	1 Year	10.7	42.6	30.5	15.0	1.1	100.0	9.5	4.1
	Total	12.4	48.3	29.3	9.4	0.6	100.0	8.9	3.8
Black	Under 1 Year	18.1	45.3	26.8	8.9	0.8	100.0	8.6	3.9
	1 Year	8.7	42.3	28.5	19.6	0.8	100.0	10.1	4.2
	Total	12.7	43.5	27.8	15.1	0.8	100.0	9.4	4.2
White	Under 1 Year	15.1	62.4	18.6	2.7	1.3	100.0	7.5	3.3
	1 Year	10.1	55.9	24.9	8.6	0.6	100.0	8.7	3.8
	Total	12.5	59.0	21.9	5.7	0.9	100.0	8.1	3.6

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Table 5.7.18 Temperament: Positive Affect Raw Scores by Child Age and Race/Ethnicity (1990 Weighted Distribution)

		1-4	5-9	10-14	15-19	Total	Mean	Std. Dev.
Age of Child								
Under 1 Year		2.5	12.5	61.1	23.9	100.0	12.3	2.9
1 Year		0.1	1.6	59.9	38.3	100.0	13.6	1.6
Total		1.2	6.8	60.5	31.5	100.0	13.0	2.4
Race of Child	**Age of Child**							
Hispanic	Under 1 Year	6.0	14.8	46.2	33.0	100.0	12.0	3.3
	1 Year		2.8	53.5	43.7	100.0	13.6	1.6
	Total	2.9	8.6	49.9	38.5	100.0	12.8	2.7
Black	Under 1 Year	2.4	10.3	54.9	32.4	100.0	12.4	2.8
	1 Year	0.7	2.2	52.4	44.7	100.0	13.6	1.9
	Total	1.4	5.6	53.5	39.5	100.0	13.1	2.4
White	Under 1 Year	2.2	12.7	63.3	21.8	100.0	12.3	2.9
	1 Year		1.4	61.9	36.7	100.0	13.6	1.5
	Total	1.1	6.8	62.6	29.5	100.0	13.0	2.4

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Table 5.7.19 Temperament: Friendliness Composite Raw Scores by Child Age and Race/Ethnicity (1990 Weighted Distribution)

		5-9	10-14	15-19	20-24	Total	Mean	Std. Dev.
Age of Child								
Under 1 Year		1.8	25.0	69.8	3.4	100.0	15.8	2.5
1 Year		1.1	24.9	68.1	5.9	100.0	16.0	2.4
Total		1.4	25.0	68.9	4.7	100.0	15.9	2.4
Race of Child	**Age of Child**							
Hispanic	Under 1 Year		31.4	58.9	9.7	100.0	15.8	2.5
	1 Year	2.2	21.8	69.2	6.8	100.0	15.8	2.7
	Total	1.1	26.5	64.2	8.2	100.0	15.8	2.6
Black	Under 1 Year	3.5	36.1	56.1	4.3	100.0	15.0	2.9
	1 Year	3.2	37.2	56.2	3.4	100.0	15.0	2.9
	Total	3.4	36.7	56.1	3.8	100.0	15.0	2.9
White	Under 1 Year	1.6	22.7	72.9	2.7	100.0	16.0	2.4
	1 Year	0.6	22.8	70.3	6.3	100.0	16.2	2.3
	Total	1.1	22.8	71.6	4.6	100.0	16.1	2.3

Table 5.7.20 Temperament: Difficulty Composite Raw Scores by Child Age and Race/Ethnicity (1990 Weighted Distribution)

		10-19	20-29	30-39	40-49	Total	Mean	Std. Dev.
Age of Child								
Under 1 Year		15.7	53.1	26.6	4.6	100.0	26.6	6.6
1 Year		40.1	51.9	7.5	0.5	100.0	21.3	5.6
Total		28.7	52.5	16.5	2.4	100.0	23.8	6.7
Race of Child	**Age of Child**							
Hispanic	Under 1 Year	8.5	54.0	26.8	10.6	100.0	28.3	6.7
	1 Year	35.5	53.7	10.7		100.0	22.0	5.7
	Total	22.7	53.9	18.4	5.0	100.0	25.0	6.9
Black	Under 1 Year	7.7	44.1	35.5	12.7	100.0	29.5	7.4
	1 Year	30.7	52.3	17.0		100.0	23.5	6.3
	Total	21.1	48.9	24.7	5.3	100.0	26.0	7.4
White	Under 1 Year	17.5	54.4	25.2	2.8	100.0	26.0	6.3
	1 Year	42.3	51.7	5.4	0.6	100.0	20.8	5.4
	Total	30.5	53.0	14.9	1.7	100.0	23.3	6.4

Table 5.7.21 Temperament: Negative Hedonic Tone Composite Raw Scores by Child Age and Race/Ethnicity (1990 Weighted Distribution)

		10-14	15-19	20-24	25-29	30+	Total	Mean	Std. Dev.
Age of Child									
Under 1 Year		9.5	30.5	30.7	19.7	9.5	100.0	21.5	5.6
1 Year		11.6	28.5	32.9	19.1	8.0	100.0	21.3	5.6
Total		10.6	29.4	31.9	19.4	8.7	100.0	21.4	5.6
Race of Child	**Age of Child**								
Hispanic	Under 1 Year	6.3	23.0	42.5	16.5	11.8	100.0	22.4	5.7
	1 Year	11.5	24.0	31.7	22.0	10.7	100.0	22.0	5.7
	Total	9.0	23.5	36.8	19.4	11.2	100.0	22.2	5.7
Black	Under 1 Year	6.2	25.1	32.6	18.9	17.3	100.0	23.2	6.3
	1 Year	6.1	24.6	30.7	21.7	17.0	100.0	23.5	6.3
	Total	6.1	24.8	31.5	20.5	17.1	100.0	23.4	6.3
White	Under 1 Year	10.3	32.0	29.5	20.2	8.2	100.0	21.2	5.5
	1 Year	12.7	29.6	33.4	18.3	6.0	100.0	20.8	5.4
	Total	11.5	30.7	31.5	19.2	7.0	100.0	21.0	5.4

Table 5.7.22 Temperament: Compliance Raw Scores by Child Age and Race/Ethnicity (1990 Weighted Distribution)

		5-9	10-14	15-19	20-24	25-29	30+	Total	Mean	Std. Dev.
Age of Child										
2 Years		0.3	6.7	12.6	38.3	37.6	4.5	100.0	22.9	4.6
3 Years		0.5	4.4	20.5	38.2	32.5	3.9	100.0	22.4	4.5
4 Years			2.9	18.1	36.9	37.3	4.7	100.0	23.2	4.3
5 Years			1.8	14.3	34.5	38.8	10.7	100.0	24.0	4.2
6 Years		0.2	1.5	12.9	30.8	48.1	6.5	100.0	24.1	4.1
Total		0.2	3.4	15.6	35.7	38.9	6.2	100.0	23.4	4.4
Race of Child	**Age of Child**									
Hispanic	2 Years		5.2	18.0	33.1	39.1	4.6	100.0	23.0	4.4
	3 Years		7.6	29.7	30.3	25.2	7.1	100.0	21.5	5.0
	4 Years		3.7	16.4	30.7	37.9	11.4	100.0	23.7	4.4
	5 Years		2.9	13.6	47.5	24.9	11.2	100.0	23.5	4.2
	6 Years	1.1	4.9	18.3	31.0	36.3	8.4	100.0	23.0	5.0
	Total	0.2	4.9	19.3	34.6	32.5	8.5	100.0	22.9	4.7
Black	2 Years		10.7	19.9	33.2	32.4	3.9	100.0	21.9	4.8
	3 Years		7.7	23.3	41.5	25.6	1.9	100.0	21.4	4.5
	4 Years		4.8	28.6	39.0	24.1	3.5	100.0	21.7	4.5
	5 Years		6.3	24.0	30.1	33.1	6.5	100.0	22.3	4.8
	6 Years	0.7	4.5	18.8	26.3	38.5	11.1	100.0	23.3	5.0
	Total	0.2	6.6	23.0	33.6	31.0	5.6	100.0	22.2	4.8
White	2 Years	0.4	6.1	10.9	39.7	38.3	4.6	100.0	23.1	4.6
	3 Years	0.7	3.5	19.0	38.5	34.6	3.9	100.0	22.7	4.4
	4 Years		2.5	16.2	37.1	39.9	4.4	100.0	23.5	4.2
	5 Years		0.8	12.4	34.2	41.2	11.4	100.0	24.3	4.0
	6 Years		0.5	11.1	31.8	51.4	5.2	100.0	24.4	3.7
	Total	0.2	2.6	13.9	36.2	41.0	6.1	100.0	23.6	4.2

Table 5.7.23 Temperament: Sociability Raw Scores by Child Age and Race/Ethnicity (1990 Weighted Distribution)

		1-4	5-9	10-14	15-19	Total	Mean	Std. Dev.
Age of Child								
4 Years		4.0	25.0	40.4	30.7	100.0	11.6	3.4
5 Years		0.3	16.3	43.2	40.2	100.0	12.7	2.6
6 Years		0.1	16.0	41.0	42.8	100.0	12.8	2.4
Total		1.5	19.0	41.6	37.9	100.0	12.3	2.9
Race of Child	**Age of Child**							
Hispanic	4 Years	2.4	20.2	48.8	28.7	100.0	11.7	3.0
	5 Years	1.3	22.0	43.6	33.2	100.0	12.1	2.8
	6 Years		14.9	46.9	38.2	100.0	12.7	2.3
	Total	1.2	19.1	46.4	33.3	100.0	12.2	2.8
Black	4 Years	4.1	29.3	33.9	32.7	100.0	11.5	3.4
	5 Years		23.4	37.3	39.2	100.0	12.3	2.7
	6 Years	0.8	23.4	40.8	34.9	100.0	12.1	2.6
	Total	1.6	25.3	37.4	35.7	100.0	12.0	2.9
White	4 Years	4.1	24.6	40.8	30.5	100.0	11.6	3.4
	5 Years	0.3	14.3	44.3	41.0	100.0	12.8	2.5
	6 Years		14.4	40.4	45.1	100.0	12.9	2.4
	Total	1.5	17.7	42.0	38.8	100.0	12.4	2.9

Table 5.7.24 Temperament: Insecure Attachment Raw Scores by Child Age and Race/Ethnicity (1990 Weighted Distribution)

		5-9	10-14	15-19	20-24	25-29	30+	Total	Mean	Std. Dev.
Age of Child										
2 Years		0.2	11.3	40.3	31.8	14.9	1.5	100.0	19.8	4.3
3 Years		0.5	14.2	43.1	32.8	7.0	2.5	100.0	18.9	4.3
4 Years		1.1	15.9	47.1	29.5	6.1	0.3	100.0	18.2	4.0
5 Years		1.5	23.8	42.1	25.9	5.6	1.1	100.0	17.8	4.4
6 Years		1.1	25.2	44.8	26.1	1.9	0.9	100.0	17.3	4.0
Total		0.9	18.2	43.4	29.1	7.1	1.3	100.0	18.4	4.3
Race of Child	**Age of Child**									
Hispanic	2 Years	1.8	12.6	29.7	28.7	23.7	3.5	100.0	20.4	5.0
	3 Years	0.7	15.4	26.8	39.4	13.0	4.7	100.0	20.3	5.0
	4 Years	1.1	9.8	38.7	40.4	10.0		100.0	19.2	4.0
	5 Years	0.8	18.6	37.8	33.4	7.6	1.8	100.0	18.7	4.6
	6 Years		25.9	33.1	27.5	10.6	2.9	100.0	18.7	5.2
	Total	0.9	16.5	33.2	33.9	13.0	2.6	100.0	19.5	4.9
Black	2 Years	0.8	4.5	39.5	33.9	19.3	2.0	100.0	20.7	4.6
	3 Years	0.8	15.4	34.8	37.5	8.0	3.4	100.0	19.4	4.6
	4 Years	2.2	11.1	44.5	30.2	9.9	2.0	100.0	18.9	4.8
	5 Years	2.9	17.1	36.4	31.9	8.9	2.8	100.0	18.6	4.9
	6 Years	2.6	17.8	42.0	33.9	2.4	1.3	100.0	18.1	4.4
	Total	2.0	13.5	39.5	33.3	9.4	2.3	100.0	19.1	4.7
White	2 Years		12.3	41.4	31.7	13.3	1.3	100.0	19.6	4.2
	3 Years	0.4	13.8	46.1	31.3	6.2	2.2	100.0	18.7	4.1
	4 Years	0.9	17.4	48.4	28.4	5.0		100.0	18.0	3.8
	5 Years	1.3	25.6	43.6	24.1	4.8	0.7	100.0	17.5	4.2
	6 Years	0.9	26.8	46.6	24.2	0.9	0.6	100.0	17.0	3.7
	Total	0.7	19.2	45.1	27.9	6.1	0.9	100.0	18.2	4.1

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Table 5.7.25 Temperament: Within-Year Correlations, 1990

Age in 1990	Activity	Positive Affect	Difficulty Abbrev.	Fearfulness Abbrev.	Friendliness	Negative Hedonic Tone	Predictability	Compliance	Insecure Attach.	Sociability	Total Behavior Problems	Total HOME	HOME Emot. Support	HOME Cogn. Stim.	PIAT[1] Math	PIAT[1] Reading Recog.
UNDER AGE ONE																
ACTIVITY	---	04[a]	15	21	-20	19	04[a]									
POSITIVE AFFECT	04[a]	---	-54	15	22	-52	-32									
DIFFICULTY ABB	15	-54	---	58	-73	95	-58									
FEARFULNESS	21	.15	58	---	-33	67	-02[a]									
FRIENDLINESS ABB	-20	22	-73	-33	---	-.75	27									
NEGATIVE HEDONIC TONE COMP	19	-52	95	67	-76	---	-29									
PREDICTABILITY	04[a]	32	-58	-02[a]	27	-29	---									
AGE ONE																
POSITIVE AFFECT		---	-40	-05[a]	16	-38										
DIFFICULTY ABB		40	---	81	-71	97										
FEARFULNESS		-05[a]	81	---	-37	85										
FRIENDLINESS ABB		16	-71	-37	---	-.73										
NEGATIVE HEDONIC TONE COMP		-38	97	85	-73	---										
AGE 2-3																
COMPLIANCE								---	-11							
INSECURE ATTACH								-11	---							
AGE 4-6																
COMPLIANCE								---	-.15	.11						
SOCIABILITY								11	-.05[a]	---	-.08	.14	.16	.09	.20	.23
INSECURE ATTACH								-.15	---	-.05[a]						

Note: [1] Five and six year-olds only. a = no significant at p < .05.

Table 5.7.26 Temperament: Cross-Year Correlations

Age of Child	Insecure Attachment 1988	Insecure Attachment 1990	Total Behavior Problems 1988	Total Behavior Problems 1990
Under One Year In 1986				
Fearfulness	.11	.12		
4-6 Years In 1986				
Compliance			-.12	-.10
Insecure Attachment			.17	.16
Sociability			-.11	-.11

Table 5.8.1 Behavior Problems Index Questionnaire Items: Their Location and Distribution among the BPI Subscales

CHILD REFNUM	QUEX TYPE	YR	QUEX LOCATION	SUBSCALE	ITEM DESCPRIPTION
E 5640.	MOMSUP	86	MS860518	ANXIOUS/DEPRESSED	BEHAVIOR PROBLEMS INDEX: HAS SUDDEN CHANGES IN MOOD/FEELING
E 5641.	MOMSUP	86	MS860519	ANXIOUS/DEPRESSED	BEHAVIOR PROBLEMS INDEX: FEELS/COMPLAINS NO ONE LOVES HIM/HER
E 5642.	MOMSUP	86	MS860520	HEADSTRONG	BEHAVIOR PROBLEMS INDEX: IS RATHER HIGH STRUNG, TENSE, NERVOUS
E 5643.	MOMSUP	86	MS860521	ANTISOCIAL	BEHAVIOR PROBLEMS INDEX: CHEATS OR TELLS LIES
E 5644.	MOMSUP	86	MS860522	ANXIOUS/DEPRESSED	BEHAVIOR PROBLEMS INDEX: IS TOO FEARFUL OR ANXIOUS
E 5645.	MOMSUP	86	MS860523	HEADSTRONG	BEHAVIOR PROBLEMS INDEX: ARGUES TOO MUCH
E 5646.	MOMSUP	86	MS860524	HYPERACTIVE	BEHAVIOR PROBLEMS INDEX: HAS DIFFICULTY CONCENTRATING/PAYING ATTENTION
E 5647.	MOMSUP	86	MS860525	HYPERACTIVE	BEHAVIOR PROBLEMS INDEX: IS EASILY CONFUSED/IN A FOG
E 5648.	MOMSUP	86	MS860526	ANTISOCIAL	BEHAVIOR PROBLEMS INDEX: BULLIES OR IS CRUEL/MEAN TO OTHERS
E 5649.	MOMSUP	86	MS860527	HEADSTRONG	BEHAVIOR PROBLEMS INDEX: IS DISOBEDIENT AT HOME
E 5650.	MOMSUP	86	MS860528	ANTISOCIAL	BEHAVIOR PROBLEMS INDEX: DOES NOT FEEL SORRY AFTER MISBEHAVNG
E 5651.	MOMSUP	86	MS860529	PEER PROBLEMS	BEHAVIOR PROBLEMS INDEX: HAS TROUBLE GETTING ALONG W/OTHERS
E 5652.	MOMSUP	86	MS860530	HYPERACTIVE	BEHAVIOR PROBLEMS INDEX: IS IMPULSIVE - ACTS W/OUT THINKING
E 5653.	MOMSUP	86	MS860531	ANXIOUS/DEPRESSED	BEHAVIOR PROBLEMS INDEX: FEELS WORTHLESS OR INFERIOR
E 5654.	MOMSUP	86	MS860532	PEER PROBLEMS	BEHAVIOR PROBLEMS INDEX: IS NOT LIKED BY OTHER CHLDREN
E 5655.	MOMSUP	86	MS860533	HYPERACTIVE	BEHAVIOR PROBLEMS INDEX: HAS TROUBLE WITH OBSESSIONS, ETC
E 5656.	MOMSUP	86	MS860534	HYPERACTIVE	BEHAVIOR PROBLEMS INDEX: IS RESTLESS, OVERLY ACTIVE, ETC
E 5657.	MOMSUP	86	MS860535	HEADSTRONG	BEHAVIOR PROBLEMS INDEX: IS STUBBORN, SULLEN, OR IRRITABLE
E 5658.	MOMSUP	86	MS860536	HEADSTRONG	BEHAVIOR PROBLEMS INDEX: HAS STRONG TEMPER, LOSES IT EASILY
E 5659.	MOMSUP	86	MS860537	ANXIOUS/DEPRESSED	BEHAVIOR PROBLEMS INDEX: IS UNHAPPY, SAD, OR DEPRESSED
E 5660.	MOMSUP	86	MS860538	PEER PROBLEMS	BEHAVIOR PROBLEMS INDEX: IS WITHDRAWN, NOT INVOLVED W/OTHERS
E 5661.	MOMSUP	86	MS860539	ANTISOCIAL	BEHAVIOR PROBLEMS INDEX: BREAKS THINGS DELIBERATELY
E 5662.	MOMSUP	86	MS860540	DEPENDENT	BEHAVIOR PROBLEMS INDEX: CLINGS TO ADULTS
E 5663.	MOMSUP	86	MS860541	DEPENDENT	BEHAVIOR PROBLEMS INDEX: CRIES TOO MUCH
E 5664.	MOMSUP	86	MS860542	DEPENDENT	BEHAVIOR PROBLEMS INDEX: DEMANDS A LOT OF ATTENTION
E 5665.	MOMSUP	86	MS860543	DEPENDENT	BEHAVIOR PROBLEMS INDEX: IS TOO DEPENDENT ON OTHERS
E 5666.	MOMSUP	86	MS860544	ANTISOCIAL	BEHAVIOR PROBLEMS INDEX: IS DISOBEDIENT AT SCHOOL
E 5667.	MOMSUP	86	MS860545	ANTISOCIAL	BEHAVIOR PROBLEMS INDEX: HAS TROUBLE GETTING ALONG W/TEACHERS
E 7808.	MOMSUP	88	MS880772	ANXIOUS/DEPRESSED	BEHAVIOR PROBLEMS INDEX: HAS SUDDEN CHANGES IN MOOD/FEELING
E 7809.	MOMSUP	88	MS880773	ANXIOUS/DEPRESSED	BEHAVIOR PROBLEMS INDEX: FEELS/COMPLAINS NO ONE LOVES HIM/HER
E 7810.	MOMSUP	88	MS880774	HEADSTRONG	BEHAVIOR PROBLEMS INDEX: IS RATHER HIGH STRUNG, TENSE, NERVOUS
E 7811.	MOMSUP	88	MS880775	ANTISOCIAL	BEHAVIOR PROBLEMS INDEX: CHEATS OR TELLS LIES
E 7812.	MOMSUP	88	MS880776	ANXIOUS/DEPRESSED	BEHAVIOR PROBLEMS INDEX: IS TOO FEARFUL OR ANXIOUS
E 7813.	MOMSUP	88	MS880777	HEADSTRONG	BEHAVIOR PROBLEMS INDEX: ARGUES TOO MUCH
E 7814.	MOMSUP	88	MS880778	HYPERACTIVE	BEHAVIOR PROBLEMS INDEX: HAS DIFFICULTY CONCENTRATING/PAYING ATTENTION
E 7815.	MOMSUP	88	MS880812	HYPERACTIVE	BEHAVIOR PROBLEMS INDEX: IS EASILY CONFUSED/IN A FOG
E 7816.	MOMSUP	88	MS880813	ANTISOCIAL	BEHAVIOR PROBLEMS INDEX: BULLIES OR IS CRUEL/MEAN TO OTHERS
E 7817.	MOMSUP	88	MS880814	HEADSTRONG	BEHAVIOR PROBLEMS INDEX: IS DISOBEDIENT AT HOME
E 7818.	MOMSUP	88	MS880815	ANTISOCIAL	BEHAVIOR PROBLEMS INDEX: DOES NOT FEEL SORRY AFTER MISBEHAVNG
E 7819.	MOMSUP	88	MS880816	PEER PROBLEMS	BEHAVIOR PROBLEMS INDEX: HAS TROUBLE GETTING ALONG W/OTHERS
E 7820.	MOMSUP	88	MS880817	HYPERACTIVE	BEHAVIOR PROBLEMS INDEX: IS IMPULSIVE - ACTS W/OUT THINKING
E 7821.	MOMSUP	88	MS880818	ANXIOUS/DEPRESSED	BEHAVIOR PROBLEMS INDEX: FEELS WORTHLESS OR INFERIOR
E 7822.	MOMSUP	88	MS880819	PEER PROBLEMS	BEHAVIOR PROBLEMS INDEX: IS NOT LIKED BY OTHER CHLDREN
E 7823.	MOMSUP	88	MS880820	HYPERACTIVE	BEHAVIOR PROBLEMS INDEX: HAS TROUBLE WITH OBSESSIONS, ETC
E 7824.	MOMSUP	88	MS880821	HYPERACTIVE	BEHAVIOR PROBLEMS INDEX: IS RESTLESS, OVERLY ACTIVE, ETC
E 7825.	MOMSUP	88	MS880822	HEADSTRONG	BEHAVIOR PROBLEMS INDEX: IS STUBBORN, SULLEN, OR IRRITABLE
E 7826.	MOMSUP	88	MS880823	HEADSTRONG	BEHAVIOR PROBLEMS INDEX: HAS STRONG TEMPER, LOSES IT EASILY

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Table 5.8.1 Behavior Problems Index Questionnaire Items: Their Location and Distribution among the BPI Subscales (continued)

CHILD REFNUM	QUEX TYPE	YR	QUEX LOCATION	SUBSCALE	ITEM DESCRIPTION
E 7827.	MOMSUP	88	MS880824	ANXIOUS/DEPRESSED	BEHAVIOR PROBLEMS INDEX: IS UNHAPPY, SAD, OR DEPRESSED
E 7828.	MOMSUP	88	MS880825	PEER PROBLEMS	BEHAVIOR PROBLEMS INDEX: IS WITHDRAWN, NOT INVOLVED W/ OTHERS
E 7829.	MOMSUP	88	MS880826	ANTISOCIAL	BEHAVIOR PROBLEMS INDEX: BREAKS THINGS DELIBERATELY
E 7830.	MOMSUP	88	MS880827	DEPENDENT	BEHAVIOR PROBLEMS INDEX: CLINGS TO ADULTS
E 7831.	MOMSUP	88	MS880828	DEPENDENT	BEHAVIOR PROBLEMS INDEX: CRIES TOO MUCH
E 7832.	MOMSUP	88	MS880829	DEPENDENT	BEHAVIOR PROBLEMS INDEX: DEMANDS A LOT OF ATTENTION
E 7833.	MOMSUP	88	MS880830	DEPENDENT	BEHAVIOR PROBLEMS INDEX: IS TOO DEPENDENT ON OTHERS
E 7834.	MOMSUP	88	MS880831	**	BEHAVIOR PROBLEMS INDEX: FEELS OTHERS OUT TO GET HIM/HER
E 7835.	MOMSUP	88	MS880832	**	BEHAVIOR PROBLEMS INDEX: HANGS AROUND WITH TROUBLE-MAKERS
E 7836.	MOMSUP	88	MS880833	**	BEHAVIOR PROBLEMS INDEX: IS SECRETIVE/KEEPS THINGS TO SELF
E 7837.	MOMSUP	88	MS880834	**	BEHAVIOR PROBLEMS INDEX: WORRIES TOO MUCH
E 7838.	MOMSUP	88	MS880835	ANTISOCIAL	BEHAVIOR PROBLEMS INDEX: IS DISOBEDIENT AT SCHOOL
E 7839.	MOMSUP	88	MS880836	ANTISOCIAL	BEHAVIOR PROBLEMS INDEX: HAS TROUBLE GETTING ALONG W/TEACHERS
E 9838.	MOMSUP	90	MS901323	ANXIOUS/DEPRESSED	BEHAVIOR PROBLEMS INDEX: HAS SUDDEN CHANGES IN MOOD/FEELING
E 9839.	MOMSUP	90	MS901325	ANXIOUS/DEPRESSED	BEHAVIOR PROBLEMS INDEX: FEELS/COMPLAINS NO ONE LOVES HIM/HER
E 9840.	MOMSUP	90	MS901327	HEADSTRONG	BEHAVIOR PROBLEMS INDEX: IS RATHER HIGH STRUNG, TENSE, NERVOUS
E 9841.	MOMSUP	90	MS901329	ANTISOCIAL	BEHAVIOR PROBLEMS INDEX: CHEATS OR TELLS LIES
E 9842.	MOMSUP	90	MS901331	ANXIOUS/DEPRESSED	BEHAVIOR PROBLEMS INDEX: IS TOO FEARFUL OR ANXIOUS
E 9843.	MOMSUP	90	MS901333	HEADSTRONG	BEHAVIOR PROBLEMS INDEX: ARGUES TOO MUCH
E 9844.	MOMSUP	90	MS901335	HYPERACTIVE	BEHAVIOR PROBLEMS INDEX: HAS DIFFICULTY CONCENTRATING/PAYING ATTENTION
E 9845.	MOMSUP	90	MS901337	HYPERACTIVE	BEHAVIOR PROBLEMS INDEX: IS EASILY CONFUSED/IN A FOG
E 9846.	MOMSUP	90	MS901339	ANTISOCIAL	BEHAVIOR PROBLEMS INDEX: BULLIES OR IS CRUEL/MEAN TO OTHERS
E 9847.	MOMSUP	90	MS901341	HEADSTRONG	BEHAVIOR PROBLEMS INDEX: IS DISOBEDIENT AT HOME
E 9848.	MOMSUP	90	MS901343	ANTISOCIAL	BEHAVIOR PROBLEMS INDEX: DOES NOT FEEL SORRY AFTER MISBEHAVNG
E 9849.	MOMSUP	90	MS901345	PEER PROBLEMS	BEHAVIOR PROBLEMS INDEX: HAS TROUBLE GETTING ALONG W/ OTHERS
E 9850.	MOMSUP	90	MS901347	HYPERACTIVE	BEHAVIOR PROBLEMS INDEX: IS IMPULSIVE - ACTS W/OUT THINKING
E 9851.	MOMSUP	90	MS901349	ANXIOUS/DEPRESSED	BEHAVIOR PROBLEMS INDEX: FEELS WORTHLESS OR INFERIOR
E 9852.	MOMSUP	90	MS901351	PEER PROBLEMS	BEHAVIOR PROBLEMS INDEX: IS NOT LIKED BY OTHER CHLDREN
E 9853.	MOMSUP	90	MS901353	HYPERACTIVE	BEHAVIOR PROBLEMS INDEX: HAS TROUBLE WITH OBSESSIONS, ETC
E 9854.	MOMSUP	90	MS901355	HYPERACTIVE	BEHAVIOR PROBLEMS INDEX: IS RESTLESS, OVERLY ACTIVE, ETC
E 9855.	MOMSUP	90	MS901357	HEADSTRONG	BEHAVIOR PROBLEMS INDEX: IS STUBBORN, SULLEN, OR IRRITABLE
E 9856.	MOMSUP	90	MS901359	HEADSTRONG	BEHAVIOR PROBLEMS INDEX: HAS STRONG TEMPER, LOSES IT EASILY
E 9857.	MOMSUP	90	MS901361	ANXIOUS/DEPRESSED	BEHAVIOR PROBLEMS INDEX: IS UNHAPPY, SAD, OR DEPRESSED
E 9858.	MOMSUP	90	MS901363	PEER PROBLEMS	BEHAVIOR PROBLEMS INDEX: IS WITHDRAWN, NOT INVOLVED W/ OTHERS
E 9859.	MOMSUP	90	MS901365	ANTISOCIAL	BEHAVIOR PROBLEMS INDEX: BREAKS THINGS DELIBERATELY
E 9860.	MOMSUP	90	MS901367	DEPENDENT	BEHAVIOR PROBLEMS INDEX: CLINGS TO ADULTS
E 9861.	MOMSUP	90	MS901369	DEPENDENT	BEHAVIOR PROBLEMS INDEX: CRIES TOO MUCH
E 9862.	MOMSUP	90	MS901371	DEPENDENT	BEHAVIOR PROBLEMS INDEX: DEMANDS A LOT OF ATTENTION
E 9863.	MOMSUP	90	MS901373	DEPENDENT	BEHAVIOR PROBLEMS INDEX: IS TOO DEPENDENT ON OTHERS
E 9864.	MOMSUP	90	MS901411	**	BEHAVIOR PROBLEMS INDEX: FEELS OTHERS OUT TO GET HIM/HER
E 9865.	MOMSUP	90	MS901413	**	BEHAVIOR PROBLEMS INDEX: HANGS AROUND WITH TROUBLE-MAKERS
E 9866.	MOMSUP	90	MS901415	**	BEHAVIOR PROBLEMS INDEX: IS SECRETIVE/KEEPS THINGS TO SELF
E 9867.	MOMSUP	90	MS901417	**	BEHAVIOR PROBLEMS INDEX: WORRIES TOO MUCH
E 9868.	MOMSUP	90	MS901419	ANTISOCIAL	BEHAVIOR PROBLEMS INDEX: IS DISOBEDIENT AT SCHOOL
E 9869.	MOMSUP	90	MS901421	ANTISOCIAL	BEHAVIOR PROBLEMS INDEX: HAS TROUBLE GETTING ALONG W/TEACHERS

** Used in 1981 NHIS Child Health Supplement but not included in the 1986 NLSY Child instrument, and therefore, not part of the CHRR BPI scales.

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Table 5.8.2 Behavior Problems Index: Components of Total Score & Subscores, 1990

Total BPI Score		Antisocial Subscore		Anxious/ Depressed Subscore	Headstrong Subscore	Hyperactive Subscore	Dependent Subscore	Peer Conflict/ Withdrawal Subscore
In School	Not In School	In School	Not In School					
MS901323	MS901323	MS901329	MS901329	MS901323	MS901327	MS901335	MS901367	MS901345
MS901325	MS901325	MS901339	MS901339	MS901325	MS901333	MS901337	MS901369	MS901351
MS901327	MS901327	MS901343	MS901343	MS901331	MS901341	MS901347	MS901371	MS901363
MS901329	MS901329	MS901365	MS901365	MS901349	MS901357	MS901353	MS901373	
MS901331	MS901331	MS901419		MS901361	MS901359	MS901355		
MS901333	MS901333	MS901421						
MS901335	MS901335							
MS901337	MS901337							
MS901339	MS901339							
MS901341	MS901341							
MS901343	MS901343							
MS901345	MS901345							
MS901347	MS901347							
MS901349	MS901349							
MS901351	MS901351							
MS901353	MS901353							
MS901355	MS901355							
MS901357	MS901357							
MS901359	MS901359							
MS901361	MS901361							
MS901363	MS901363							
MS901365	MS901365							
MS901367	MS901367							
MS901369	MS901369							
MS901371	MS901371							
MS901373	MS901373							
MS901419								
MS901421								

Table 5.8.3 Behavior Problems Index: Raw Scores by Child Age and Race/Ethnicity (1990 Sample Cases)

		0-4	5-9	10-14	15-19	20+	Valid	Total	% Valid
Age of Child									
4-5 Years		248	295	240	116	42	941	975	96.5
6-7 Years		219	265	207	117	57	865	909	95.2
8-9 Years		192	258	189	124	52	815	860	94.8
10+ Years		296	369	287	150	109	1211	1296	93.4
Total		955	1187	923	507	260	3832	4040	94.9
Race of Child	**Age of Child**								
Hispanic	4-5 Years	58	64	50	30	4	206	216	95.4
	6-7 Years	52	55	48	24	16	195	204	95.6
	8-9 Years	53	66	50	27	11	207	222	93.2
	10+ Years	70	79	53	39	16	257	279	92.1
	Total	233	264	201	120	47	865	921	93.9
Black	4-5 Years	70	73	68	47	26	284	295	96.3
	6-7 Years	59	100	78	37	22	296	312	94.9
	8-9 Years	73	84	65	49	13	284	302	94.0
	10+ Years	127	163	138	55	57	540	588	91.8
	Total	329	420	349	188	118	1404	1497	93.8
White	4-5 Years	120	158	122	39	12	451	464	97.2
	6-7 Years	108	110	81	56	19	374	393	95.2
	8-9 Years	66	108	74	48	28	324	336	96.4
	10+ Years	99	127	96	56	36	414	429	96.5
	Total	393	503	373	199	95	1563	1622	96.4

Table 5.8.4 Behavior Problems Index: Percentile Scores by Child Age and Race/Ethnicity (1990 Sample Cases)

		1-19	20-39	40-59	60-79	80-89	90+	Valid	Total	% Valid
Age of Child										
4-5 Years		103	151	213	211	113	150	941	975	96.5
6-7 Years		72	147	150	234	107	153	863	907	95.1
8-9 Years		59	104	185	178	146	142	814	859	94.8
10+ Years		79	126	240	342	172	252	1211	1296	93.4
Total		313	528	788	965	538	697	3829	4037	94.8
Race of Child	**Age of Child**									
Hispanic	4-5 Years	22	38	36	50	28	32	206	216	95.4
	6-7 Years	14	38	34	47	24	37	194	203	95.6
	8-9 Years	20	25	48	48	33	32	206	221	93.2
	10+ Years	12	36	55	69	31	54	257	279	92.1
	Total	68	137	173	214	116	155	863	919	93.9
Black	4-5 Years	26	45	55	60	29	69	284	295	96.3
	6-7 Years	15	44	53	93	38	53	296	312	94.9
	8-9 Years	22	42	57	66	49	48	284	302	94.0
	10+ Years	34	50	110	150	88	108	540	588	91.8
	Total	97	181	275	369	204	278	1404	1497	93.8
White	4-5 Years	55	68	122	101	56	49	451	464	97.2
	6-7 Years	43	65	63	94	45	63	373	392	95.2
	8-9 Years	17	37	80	64	64	62	324	336	96.4
	10+ Years	33	40	75	123	53	90	414	429	96.5
	Total	148	210	340	382	218	264	1562	1621	96.4

Table 5.8.5 Behavior Problems Index: Standard Scores by Child Age and Race/Ethnicity (1990 Sample Cases)

		65-84	85-99	100-114	115-129	130+	Valid	Total	% Valid
Age of Child									
4-5 Years		76	281	361	170	53	941	975	96.5
6-7 Years		72	220	331	193	47	863	907	95.1
8-9 Years		41	205	320	197	51	814	859	94.8
10+ Years		58	253	533	272	95	1211	1296	93.4
Total		247	959	1545	832	246	3829	4037	94.8
Race of Child	**Age of Child**								
Hispanic	4-5 Years	15	61	75	48	7	206	216	95.4
	6-7 Years	14	50	73	45	12	194	203	95.6
	8-9 Years	14	57	80	45	10	206	221	93.2
	10+ Years	7	69	108	55	18	257	279	92.1
	Total	50	237	336	193	47	863	919	93.9
Black	4-5 Years	18	79	100	58	29	284	295	96.3
	6-7 Years	15	70	130	63	18	296	312	94.9
	8-9 Years	13	78	106	74	13	284	302	94.0
	10+ Years	27	103	236	130	44	540	588	91.8
	Total	73	330	572	325	104	1404	1497	93.8
White	4-5 Years	43	141	186	64	17	451	464	97.2
	6-7 Years	43	100	128	85	17	373	392	95.2
	8-9 Years	14	70	134	78	28	324	336	96.4
	10+ Years	24	81	189	87	33	414	429	96.5
	Total	124	392	637	314	95	1562	1621	96.4

Table 5.8.6 Behavior Problems Index: Percentile Scores by Child Age and Race/Ethnicity (1990 Weighted Distribution)

		1-19	20-39	40-59	60-79	80-89	90+	Total	Mean	Std. Dev.
Age of Child										
4-5 Years		11.9	15.5	25.4	22.4	12.0	12.9	100.0	55.9	27.0
6-7 Years		9.8	16.8	16.8	27.3	12.4	17.0	100.0	59.7	27.6
8-9 Years		6.0	11.8	24.0	20.6	19.0	18.5	100.0	64.6	25.6
10+ Years		6.8	9.6	19.5	28.8	13.5	21.7	100.0	65.8	25.9
Total		8.6	13.2	21.3	25.1	14.0	17.7	100.0	61.7	26.8
Race of Child	**Age of Child**									
Hispanic	4-5 Years	11.6	17.5	17.3	24.4	14.7	14.5	100.0	57.5	28.1
	6-7 Years	7.3	17.1	16.5	27.4	12.4	19.2	100.0	62.4	26.7
	8-9 Years	9.9	12.5	24.1	21.9	15.3	16.3	100.0	60.8	26.4
	10+ Years	4.3	13.6	20.6	28.5	12.0	21.0	100.0	64.7	25.0
	Total	7.8	14.9	19.9	25.9	13.4	18.1	100.0	61.8	26.5
Black	4-5 Years	9.0	15.8	19.9	22.3	9.9	23.1	100.0	61.4	28.3
	6-7 Years	4.5	14.5	18.0	32.8	12.8	17.4	100.0	63.7	24.9
	8-9 Years	7.6	14.9	18.8	22.7	18.0	18.1	100.0	63.2	26.7
	10+ Years	6.2	9.0	21.1	26.4	16.2	21.1	100.0	66.5	25.6
	Total	6.7	12.6	19.8	26.2	14.6	20.2	100.0	64.2	26.3
White	4-5 Years	12.5	15.2	27.2	22.2	12.2	10.7	100.0	54.7	26.5
	6-7 Years	11.3	17.4	16.6	25.9	12.2	16.6	100.0	58.5	28.3
	8-9 Years	5.1	11.0	25.4	19.9	19.7	18.9	100.0	65.4	25.1
	10+ Years	7.5	9.3	18.8	29.7	12.7	22.1	100.0	65.7	26.1
	Total	9.2	13.1	21.9	24.7	13.9	17.0	100.0	60.9	27.0

Table 5.8.7 Behavior Problems Index: Percentile Scores by Maternal Characteristics and Age of Child (1990 Weighted Distribution)

		1-19	20-39	40-59	60-79	80-89	90-99	Total	Mean	Std. Dev.
Maternal Education	**Age of Child**									
< 12 Years	4-5 Years	5.9	10.2	26.3	17.3	17.2	23.2	100.0	65.0	26.6
	6-7 Years	11.4	12.6	16.6	22.7	14.6	22.0	100.0	62.1	28.9
	8-9 Years	3.9	8.9	22.7	19.0	22.0	23.4	100.0	69.0	24.2
	10+ Years	7.1	8.2	19.8	25.7	12.7	26.5	100.0	67.0	26.5
	Total	7.0	9.5	20.8	22.5	15.7	24.5	100.0	66.2	26.6
12 Years	4-5 Years	13.7	14.3	24.3	24.8	11.9	10.9	100.0	55.0	26.9
	6-7 Years	8.5	21.9	16.2	26.3	9.8	17.3	100.0	58.3	27.5
	8-9 Years	6.2	12.8	23.0	26.0	15.5	16.4	100.0	63.1	25.5
	10+ Years	6.3	11.0	19.5	27.9	13.1	22.2	100.0	65.8	26.0
	Total	8.8	14.9	20.8	26.3	12.5	16.8	100.0	60.6	26.9
13+ Years	4-5 Years	12.5	19.6	26.3	21.6	9.5	10.4	100.0	52.6	26.4
	6-7 Years	10.5	12.2	18.1	32.5	14.1	12.5	100.0	59.8	26.7
	8-9 Years	8.6	13.8	28.3	10.3	22.5	16.6	100.0	61.6	26.8
	10+ Years	7.6	10.1	19.3	36.4	16.7	10.0	100.0	62.8	24.2
	Total	10.2	14.5	23.0	25.8	14.6	11.9	100.0	58.3	26.4
Mother's Age at Birth of Child										
Under 20 Years		6.4	10.7	20.1	27.8	14.4	20.6	100.0	65.1	25.7
20-24 Years		8.1	12.9	20.4	25.7	14.8	18.2	100.0	62.6	26.7
25-29 Years		13.4	17.8	25.7	19.5	11.4	12.2	100.0	53.8	27.4

Table 5.8.8 Behavior Problems Index: Standard Scores by Child Age and Race/Ethnicity (1990 Weighted Distribution)

		65-84	85-99	100-114	115-129	130+	Total	Mean	Std. Dev.
Age of Child									
4-5 Years		9.2	30.6	40.3	15.2	4.8	100.0	103.4	14.2
6-7 Years		9.8	25.8	37.1	22.7	4.6	100.0	105.0	14.3
8-9 Years		4.6	23.0	40.3	24.6	7.5	100.0	107.8	14.2
10+ Years		5.0	20.4	44.5	21.7	8.4	100.0	108.6	14.6
Total		7.0	24.7	40.9	20.9	6.5	100.0	106.3	14.5
Race of Child	**Age of Child**								
Hispanic	4-5 Years	8.4	29.1	36.1	23.5	2.9	100.0	103.8	14.0
	6-7 Years	7.3	24.1	39.4	23.4	5.8	100.0	106.6	13.8
	8-9 Years	6.7	29.9	36.0	22.8	4.6	100.0	105.7	14.0
	10+ Years	2.9	25.5	43.3	21.4	6.8	100.0	107.7	13.4
	Total	5.9	27.0	39.3	22.6	5.3	100.0	106.2	13.8
Black	4-5 Years	6.4	27.7	37.2	18.7	10.0	100.0	106.8	15.9
	6-7 Years	4.5	24.2	44.6	21.1	5.6	100.0	107.1	13.3
	8-9 Years	4.8	26.3	36.4	27.7	4.8	100.0	106.8	13.9
	10+ Years	4.9	19.3	42.8	24.8	8.2	100.0	109.1	14.8
	Total	5.1	23.3	40.9	23.4	7.4	100.0	107.8	14.6
White	4-5 Years	9.8	31.3	41.3	13.7	3.9	100.0	102.6	13.7
	6-7 Years	11.3	26.3	35.1	23.0	4.3	100.0	104.3	14.5
	8-9 Years	4.2	21.3	41.9	24.1	8.5	100.0	108.4	14.3
	10+ Years	5.4	20.1	45.2	20.6	8.7	100.0	108.5	14.7
	Total	7.7	24.8	41.1	20.0	6.3	100.0	105.9	14.5

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Table 5.8.9 Behavior Problems Index: Standard Scores by Maternal Characteristics and Age of Child (1990 Weighted Distribution)

		65-84	85-99	100-114	115-129	130+	Total	Mean	Std. Dev.
Maternal Education	**Age of Child**								
< 12 Years	4-5 Years	4.5	22.3	38.7	24.4	10.2	100.0	108.6	15.3
	6-7 Years	11.4	21.5	31.8	26.6	8.6	100.0	106.6	15.6
	8-9 Years	2.6	19.2	38.8	29.9	9.4	100.0	110.5	14.4
	10+ Years	5.5	21.3	37.2	26.0	10.0	100.0	109.6	15.4
	Total	5.8	21.0	36.8	26.7	9.7	100.0	109.1	15.3
12 Years	4-5 Years	10.4	30.5	41.6	13.0	4.6	100.0	102.8	14.0
	6-7 Years	8.5	30.9	36.0	20.3	4.3	100.0	104.4	14.2
	8-9 Years	4.9	23.3	43.4	22.3	6.0	100.0	106.9	13.9
	10+ Years	5.2	19.2	46.2	19.7	9.7	100.0	108.7	14.8
	Total	7.3	25.9	42.0	18.6	6.2	100.0	105.7	14.4
13+ Years	4-5 Years	9.8	34.9	39.3	13.6	2.3	100.0	101.5	13.3
	6-7 Years	10.5	21.1	43.2	23.0	2.1	100.0	104.5	13.2
	8-9 Years	6.6	27.8	34.9	22.7	8.1	100.0	106.4	14.2
	10+ Years	3.7	21.2	56.2	16.4	2.5	100.0	106.0	11.9
	Total	8.0	27.0	43.4	18.2	3.3	100.0	104.2	13.3
Age of Mother at Birth of Child									
Under 20 Years		5.3	22.1	42.3	23.1	7.3	100.0	108.2	14.3
20-24 Years		6.9	22.8	41.7	21.7	6.9	100.0	106.7	14.5
25-29 Years		10.2	33.9	36.7	15.3	3.9	100.0	102.3	14.1

Note: Table constructed using "same gender" scores.

Table 5.8.10 Behavior Problems Index: Standard Scores for Male Children by Child Age and Race/Ethnicity (1990 Weighted Distribution)

		65-84	85-99	100-114	115-129	130+	Total	Mean	Std. Dev.
Age of Child									
4-5 Years		10.6	34.3	33.6	15.5	6.0	100.0	102.6	15.0
6-7 Years		11.3	24.3	41.9	19.9	2.6	100.0	103.6	14.8
8-9 Years		5.8	24.5	37.3	24.3	8.1	100.0	107.9	14.4
10+ Years		6.3	22.6	41.9	20.4	8.8	100.0	107.9	14.9
Total		8.3	26.2	38.9	19.9	6.6	100.0	105.7	15.0
Race of Child	**Age of Child**								
Hispanic	4-5 Years	9.8	29.6	36.6	20.4	3.6	100.0	103.0	15.0
	6-7 Years	5.3	21.8	43.6	26.0	3.3	100.0	107.9	13.4
	8-9 Years	7.0	24.1	39.7	23.2	6.1	100.0	107.5	13.7
	10+ Years	3.9	25.6	42.9	21.8	5.7	100.0	107.2	13.2
	Total	6.1	25.5	41.0	22.6	4.9	100.0	106.4	13.9
Black	4-5 Years	5.7	27.8	38.4	16.7	11.4	100.0	106.6	16.2
	6-7 Years	4.0	20.4	48.8	21.8	5.0	100.0	107.4	13.9
	8-9 Years	8.4	28.0	33.7	27.3	2.5	100.0	105.7	13.8
	10+ Years	7.6	20.7	40.6	23.9	7.2	100.0	107.9	15.0
	Total	6.7	23.4	40.3	22.8	6.7	100.0	107.1	14.9
White	4-5 Years	11.6	36.1	32.3	14.8	5.2	100.0	101.7	14.6
	6-7 Years	13.3	25.4	40.3	19.0	2.1	100.0	102.5	14.9
	8-9 Years	5.0	23.6	37.9	23.7	9.8	100.0	108.5	14.6
	10+ Years	6.1	22.8	42.2	18.8	10.0	100.0	108.1	15.1
	Total	9.0	27.0	38.3	18.8	6.8	100.0	105.2	15.1

Note: Table constructed using "same gender" scores.

Table 5.8.11 Behavior Problems Index: Standard Scores for Male Children by Maternal Characteristics and Age of Child (1990 Weighted Distribution)

Maternal Education	Age of Child	65-84	85-99	100-114	115-129	130+	Total	Mean	Std. Dev.
< 12 Years	4-5 Years	3.8	29.0	32.9	21.3	13.0	100.0	108.4	15.1
	6-7 Years	12.6	21.3	38.0	23.4	4.7	100.0	105.2	16.7
	8-9 Years	5.2	20.1	34.9	27.4	12.3	100.0	110.7	15.2
	10+ Years	4.6	22.0	33.3	27.2	12.9	100.0	110.8	15.7
	Total	6.2	22.6	34.5	25.6	11.1	100.0	109.3	15.9
12 Years	4-5 Years	11.1	36.7	34.3	14.0	4.0	100.0	101.4	14.1
	6-7 Years	11.2	26.0	42.8	16.9	3.1	100.0	103.6	14.5
	8-9 Years	5.6	22.7	43.9	22.6	5.3	100.0	106.7	13.3
	10+ Years	7.5	24.0	43.3	17.0	8.3	100.0	106.7	15.0
	Total	8.7	27.3	41.1	17.6	5.4	100.0	104.7	14.4
13+ Years	4-5 Years	13.4	33.9	33.1	14.5	5.1	100.0	101.1	15.3
	6-7 Years	10.2	24.5	44.0	21.3		100.0	102.4	13.2
	8-9 Years	7.3	35.4	23.4	24.5	9.5	100.0	107.1	15.7
	10+ Years	7.2	21.0	56.2	13.3	2.3	100.0	104.7	11.9
	Total	10.0	28.4	40.2	17.5	3.8	100.0	103.3	14.2
Mother's Age at Birth of Child									
Under 20 Years		6.5	23.1	41.2	21.0	8.2	100.0	107.6	14.5
20-24 Years		7.7	25.5	39.1	21.4	6.3	100.0	106.2	14.9
25-29 Years		13.1	33.2	34.7	14.0	4.9	100.0	101.1	15.1

Note: Table constructed using "same gender" scores.

Table 5.8.12 Behavior Problems Index: Standard Scores for Female Children by Child Age and Race/Ethnicity (1990 Weighted Distribution)

		65-84	85-99	100-114	115-129	130+	Total	Mean	Std. Dev.
Age of Child									
4-5 Years		5.0	33.2	41.8	17.2	2.8	100.0	103.7	13.3
6-7 Years		5.8	26.0	38.7	23.3	6.2	100.0	106.5	13.9
8-9 Years		3.4	22.0	45.6	21.0	8.0	100.0	107.7	13.7
10+ Years		5.1	18.8	43.2	26.5	6.4	100.0	109.2	14.1
Total		4.9	24.9	42.3	22.2	5.8	100.0	106.8	13.9
Race of Child	**Age of Child**								
Hispanic	4-5 Years	4.9	32.6	33.4	26.2	2.8	100.0	104.3	13.7
	6-7 Years	5.4	31.6	38.0	19.3	5.7	100.0	105.6	14.0
	8-9 Years	7.3	31.1	39.5	18.9	3.2	100.0	103.8	13.5
	10+ Years	2.9	27.5	40.4	24.5	4.7	100.0	108.2	13.6
	Total	5.0	30.4	38.2	22.3	4.2	100.0	105.7	13.8
Black	4-5 Years	4.7	29.3	35.8	21.4	8.9	100.0	106.5	15.2
	6-7 Years	2.3	21.9	47.1	21.8	6.9	100.0	107.9	12.7
	8-9 Years	3.2	23.9	40.3	23.7	9.0	100.0	108.1	14.3
	10+ Years	3.7	18.1	44.4	25.2	8.6	100.0	110.1	14.1
	Total	3.5	22.3	42.5	23.4	8.3	100.0	108.5	14.2
White	4-5 Years	5.1	34.0	43.7	15.6	1.6	100.0	103.2	12.7
	6-7 Years	6.9	26.5	36.4	24.2	6.1	100.0	106.2	14.2
	8-9 Years	2.9	20.2	47.8	20.6	8.4	100.0	108.1	13.5
	10+ Years	5.9	18.0	43.1	27.2	5.8	100.0	109.0	14.1
	Total	5.3	24.9	42.7	21.8	5.2	100.0	106.5	13.8

Note: Table constructed using "same gender" scores.

Table 5.8.13 Behavior Problems Index: Standard Scores for Female Children by Maternal Characteristics and Age of Child (1990 Weighted Distribution)

		65-84	85-99	100-114	115-129	130+	Total	Mean	Std. Dev.
Maternal Education	**Age of Child**								
< 12 Years	4-5 Years	4.4	27.0	31.9	30.4	6.3	100.0	107.4	14.3
	6-7 Years	5.6	23.2	31.9	31.0	8.4	100.0	108.5	14.6
	8-9 Years	2.1	17.2	43.5	27.0	10.2	100.0	110.2	13.5
	10+ Years	7.7	19.1	40.9	26.7	5.7	100.0	108.7	14.6
	Total	5.6	20.5	38.7	28.0	7.2	100.0	108.8	14.3
12 Years	4-5 Years	6.0	31.1	44.5	15.3	3.2	100.0	103.8	13.8
	6-7 Years	4.1	34.1	36.0	18.0	7.7	100.0	105.6	13.9
	8-9 Years	5.0	23.5	46.4	15.9	9.2	100.0	106.8	14.4
	10+ Years	3.3	17.0	41.3	29.3	9.1	100.0	110.7	14.3
	Total	4.6	26.6	41.9	19.8	7.1	100.0	106.7	14.3
13+ Years	4-5 Years	4.0	38.7	43.0	13.6	0.7	100.0	102.0	11.6
	6-7 Years	8.8	15.1	47.8	25.9	2.4	100.0	106.5	13.4
	8-9 Years	2.4	25.8	45.5	22.7	3.6	100.0	105.9	12.4
	10+ Years	2.8	22.7	51.2	20.5	2.7	100.0	107.2	11.9
	Total	4.7	27.0	46.3	19.9	2.1	100.0	105.0	12.5
Mother's Age at Birth of Child									
Under 20 Years		4.3	21.4	42.2	24.9	7.2	100.0	108.8	13.9
20-24 Years		4.8	23.5	42.8	22.7	6.2	100.0	107.2	14.0
25-29 Years		6.0	33.5	41.3	16.8	2.4	100.0	103.0	13.0

Note: Table constructed using "same gender" scores.

Table 5.8.14 Behavior Problems Index: Percentile Score for Male Children by Maternal Characteristics and Age of Child (1990 Weighted Distribution)

		1-19	20-39	40-59	60-79	80-89	90-99	Total	Mean	Std. Dev.
Maternal Education	**Age of Child**									
< 12 Years	4-5 Years	5.9	8.7	33.2	12.4	20.4	19.5	100.0	64.7	26.0
	6-7 Years	14.4	12.3	19.9	18.1	12.9	22.4	100.0	59.5	30.3
	8-9 Years	5.2	3.7	25.2	22.3	15.3	28.4	100.0	68.9	24.8
	10+ Years	5.3	10.7	18.2	20.5	15.1	30.2	100.0	68.6	26.4
	Total	7.2	9.3	22.2	19.1	15.5	26.6	100.0	66.2	27.1
12 Years	4-5 Years	13.3	17.6	27.8	19.1	12.7	9.5	100.0	52.5	27.0
	6-7 Years	12.9	17.3	15.3	28.6	11.6	14.3	100.0	57.2	27.8
	8-9 Years	5.6	15.4	19.2	27.4	14.3	18.1	100.0	63.2	25.1
	10+ Years	7.5	14.4	17.9	31.4	11.4	17.5	100.0	62.3	26.9
	Total	9.7	16.1	20.1	26.8	12.5	14.9	100.0	59.0	27.1
13+ Years	4-5 Years	16.5	21.1	21.2	20.3	9.6	11.3	100.0	51.5	28.6
	6-7 Years	16.1	15.4	19.7	25.2	14.4	9.1	100.0	55.3	26.7
	8-9 Years	7.3	15.6	20.8	17.1	15.6	23.6	100.0	62.3	29.1
	10+ Years	8.2	11.3	22.2	37.5	11.0	9.8	100.0	60.6	24.4
	Total	12.8	16.3	21.0	25.5	12.1	12.3	100.0	56.5	27.5
Mother's Age at Birth of Child										
Under 20 Years		7.1	11.3	22.1	25.5	13.3	20.7	100.0	64.0	26.0
20-24 Years		8.5	14.0	19.1	26.3	13.3	18.7	100.0	61.6	27.3
25-29 Years		17.5	19.2	24.2	16.4	13.0	9.9	100.0	51.4	28.3

Note: Table constructed using "same gender" scores.

Table 5.8.15 Behavior Problems Index: Percentile Score for Female Children by Maternal Characteristics and Age of Child (1990 Weighted Distribution)

		1-19	20-39	40-59	60-79	80-89	90-99	Total	Mean	Std. Dev.
Maternal Education	**Age of Child**									
< 12 Years	4-5 Years	5.4	16.9	20.8	18.8	16.6	21.5	100.0	63.8	27.0
	6-7 Years	9.7	11.5	20.9	17.0	17.4	23.6	100.0	65.4	27.3
	8-9 Years	2.1	8.6	23.3	22.6	19.4	24.0	100.0	69.2	23.6
	10+ Years	8.0	9.1	18.0	29.9	10.6	24.5	100.0	66.2	26.7
	Total	6.5	10.6	20.1	24.5	14.6	23.8	100.0	66.4	26.2
12 Years	4-5 Years	12.0	18.2	15.7	30.6	12.6	10.9	100.0	57.3	27.0
	6-7 Years	5.3	22.5	21.9	19.0	11.6	19.7	100.0	59.9	26.6
	8-9 Years	5.9	15.1	23.8	23.7	14.5	17.0	100.0	62.3	26.0
	10+ Years	4.1	11.2	15.6	25.8	18.5	24.8	100.0	69.5	24.7
	Total	7.0	16.8	18.8	25.0	14.3	18.0	100.0	62.2	26.5
13+ Years	4-5 Years	8.2	25.3	21.6	29.3	8.1	7.5	100.0	54.0	24.5
	6-7 Years	11.1	9.2	13.5	30.2	20.2	15.8	100.0	63.8	26.7
	8-9 Years	6.7	11.5	26.7	20.9	15.8	18.4	100.0	61.9	24.8
	10+ Years	5.8	13.9	9.8	39.9	15.1	15.5	100.0	64.9	24.2
	Total	8.2	16.3	18.1	30.0	14.1	13.3	100.0	60.2	25.5
Mother's Age at Birth of Child										
Under 20 Years		5.4	10.9	19.1	28.0	13.7	22.9	100.0	66.5	25.4
20-24 Years		7.2	14.0	18.3	26.0	16.4	18.1	100.0	63.7	26.1
25-29 Years		9.4	22.6	20.2	24.5	10.6	12.7	100.0	55.8	26.4

Note: Table constructed using "same gender" scores.

Table 5.8.16 Behavior Problems Index: Peer Conflict Percentile Scores by Child Age and Race/Ethnicity (1990 Weighted Distribution)

		40-59	80-89	90-99	Total	Mean	Std. Dev.
Age of Child							
4-5 Years		70.2		29.8	100.0	57.4	23.1
6-7 Years		68.1	19.5	12.5	100.0	57.8	23.9
8-9 Years		66.1	20.5	13.4	100.0	57.1	23.8
10+ Years		64.9	18.4	16.7	100.0	58.9	24.3
Total		67.2	14.6	18.2	100.0	57.9	23.8
Race of Child	**Age of Child**						
Hispanic	4-5 Years	69.5		30.5	100.0	57.6	23.0
	6-7 Years	66.2	23.4	10.4	100.0	58.6	24.0
	8-9 Years	69.9	16.0	14.2	100.0	55.5	23.5
	10+ Years	68.0	17.3	14.7	100.0	57.3	23.7
	Total	68.4	14.3	17.3	100.0	57.2	23.6
Black	4-5 Years	64.7		35.3	100.0	60.5	24.6
	6-7 Years	68.1	18.4	13.5	100.0	57.9	24.1
	8-9 Years	66.3	19.9	13.8	100.0	57.1	23.9
	10+ Years	63.3	19.3	17.4	100.0	59.8	24.5
	Total	65.2	15.4	19.4	100.0	59.0	24.3
White	4-5 Years	74.0		26.0	100.0	55.4	21.9
	6-7 Years	69.1	18.3	12.6	100.0	57.4	23.7
	8-9 Years	63.4	24.0	12.6	100.0	58.3	24.1
	10+ Years	65.3	17.8	16.9	100.0	58.7	24.3
	Total	68.3	14.1	17.6	100.0	57.4	23.5

Table 5 8 17 Behavior Problems Index: Peer Conflict Standard Scores by Child Age and Race/Ethnicity (1990 Weighted Distribution)

		85-99	115-129	130+	Total	Mean	Std. Dev.
Age of Child							
4-5 Years		72.5	20.5	7.0	100.0	104.4	12.5
6-7 Years		68.4	28.7	2.9	100.0	105.5	13.1
8-9 Years		64.6	32.4	3.0	100.0	104.7	12.4
10+ Years		65.1	28.8	6.1	100.0	105.9	13.2
Total		67.6	27.5	5.0	100.0	105.2	12.9
Race of Child	**Age of Child**						
Hispanic	4-5 Years	71.4	21.8	6.8	100.0	104.5	12.4
	6-7 Years	66.5	29.0	4.5	100.0	105.9	13.2
	8-9 Years	69.9	26.9	3.2	100.0	103.7	12.4
	10+ Years	67.8	27.0	5.3	100.0	104.9	12.6
	Total	68.8	26.3	5.0	100.0	104.7	12.7
Black	4-5 Years	66.7	20.7	12.7	100.0	106.7	14.7
	6-7 Years	69.2	27.7	3.1	100.0	105.3	13.2
	8-9 Years	64.2	33.0	2.7	100.0	104.9	12.5
	10+ Years	63.1	30.3	6.5	100.0	106.4	13.4
	Total	65.3	28.4	6.3	100.0	106.0	13.5
White	4-5 Years	73.7	20.3	5.9	100.0	103.9	12.0
	6-7 Years	68.5	28.9	2.6	100.0	105.4	13.1
	8-9 Years	63.9	33.1	3.0	100.0	104.8	12.3
	10+ Years	65.4	28.5	6.0	100.0	105.8	13.2
	Total	68.1	27.3	4.6	100.0	105.0	12.7

Table 5.8.18 Behavior Problems Index: Hyperactive Percentile Scores by Child Age and Race/Ethnicity (1990 Weighted Distribution)

		1-19	20-39	40-59	60-79	80-89	90-99	Total	Mean	Std. Dev.
Age of Child										
4-5 Years		27.3		21.4	20.9	19.0	11.4	100.0	56.1	28.0
6-7 Years		23.6		20.8	20.2	17.4	18.0	100.0	58.8	28.0
8-9 Years		21.9		19.4	21.4	17.4	20.0	100.0	59.7	27.5
10+ Years		11.8	10.9	24.4	16.7	17.4	18.7	100.0	60.9	27.1
Total		20.4	3.5	21.8	19.5	17.8	17.0	100.0	59.0	27.7
Race of Child	**Age of Child**									
Hispanic	4-5 Years	22.9		21.6	20.0	19.0	16.5	100.0	59.6	28.0
	6-7 Years	19.4		25.0	14.6	17.0	23.9	100.0	61.5	27.9
	8-9 Years	27.2		19.2	18.9	13.6	21.0	100.0	56.9	28.9
	10+ Years	9.5	15.7	25.8	14.2	15.1	19.7	100.0	59.3	27.6
	Total	18.6	5.4	23.2	16.6	15.9	20.2	100.0	59.2	28.1
Black	4-5 Years	21.9		19.1	17.8	23.2	18.0	100.0	61.9	28.6
	6-7 Years	19.7		18.0	20.9	17.8	23.6	100.0	63.0	27.9
	8-9 Years	22.4		21.8	16.7	17.4	21.6	100.0	59.5	28.2
	10+ Years	9.8	15.6	21.3	17.3	15.6	20.3	100.0	60.5	27.9
	Total	16.5	6.5	20.3	18.0	17.9	20.8	100.0	61.1	28.1
White	4-5 Years	28.8		21.8	21.6	18.2	9.7	100.0	54.6	27.7
	6-7 Years	25.0		21.1	20.6	17.4	16.0	100.0	57.5	27.9
	8-9 Years	21.0		18.8	22.9	17.9	19.4	100.0	60.1	27.1
	10+ Years	13.0	8.4	25.4	16.9	18.4	17.9	100.0	61.2	26.7
	Total	21.7	2.4	22.1	20.2	18.0	15.5	100.0	58.3	27.5

Table 5.8.19 Behavior Problems Index: Hyperactive Standard Scores by Child Age and Race/Ethnicity (1990 Weighted Distribution)

		85-99	100-114	115-129	130+	Total	Mean	Std. Dev.
Age of Child								
4-5 Years		48.7	30.6	16.8	4.0	100.0	103.6	13.8
6-7 Years		44.4	37.6	11.6	6.4	100.0	104.7	13.9
8-9 Years		41.3	38.7	11.2	8.8	100.0	105.5	13.9
10+ Years		26.1	46.6	21.3	6.1	100.0	105.9	13.4
Total		39.0	39.0	15.9	6.2	100.0	105.0	13.7
Race of Child	**Age of Child**							
Hispanic	4-5 Years	44.5	30.3	21.1	4.2	100.0	105.4	14.1
	6-7 Years	44.5	31.6	16.3	7.7	100.0	106.2	14.1
	8-9 Years	46.4	32.6	12.6	8.5	100.0	104.3	14.5
	10+ Years	28.2	44.8	21.1	5.9	100.0	105.3	13.6
	Total	39.3	36.1	18.0	6.5	100.0	105.2	14.0
Black	4-5 Years	41.0	29.1	21.6	8.4	100.0	107.0	15.2
	6-7 Years	37.7	38.7	13.7	9.9	100.0	106.9	14.3
	8-9 Years	44.3	34.1	11.3	10.3	100.0	105.6	14.4
	10+ Years	29.3	42.4	20.9	7.5	100.0	106.0	14.0
	Total	36.1	37.5	17.8	8.7	100.0	106.3	14.4
White	4-5 Years	50.6	30.9	15.4	3.1	100.0	102.7	13.3
	6-7 Years	46.1	37.9	10.6	5.5	100.0	103.9	13.7
	8-9 Years	39.8	40.8	10.9	8.4	100.0	105.6	13.6
	10+ Years	24.5	48.5	21.5	5.5	100.0	106.0	13.1
	Total	39.7	39.7	15.1	5.4	100.0	104.6	13.5

Table 5.8.20 Behavior Problems Index: Headstrong Percentile Scores by Child Age and Race/Ethnicity (1990 Weighted Distribution)

		1-19	20-39	40-59	60-79	80-89	90-99	Total	Mean	Std. Dev.
Age of Child										
4-5 Years		16.0	18.3	19.9	25.3	8.1	12.3	100.0	53.7	26.8
6-7 Years		17.8	17.6	18.3	16.7	16.9	12.8	100.0	54.3	27.9
8-9 Years		14.5	13.9	20.4	18.0	18.4	14.7	100.0	60.4	26.6
10+ Years		14.9	10.3	21.0	17.9	17.2	18.6	100.0	62.4	27.5
Total		15.8	14.7	20.0	19.5	15.1	14.9	100.0	58.0	27.5
Race of Child	**Age of Child**									
Hispanic	4-5 Years	20.4	17.4	17.6	22.6	12.6	9.6	100.0	52.0	27.7
	6-7 Years	17.0	18.6	15.8	14.6	18.8	15.2	100.0	55.6	28.6
	8-9 Years	20.5	18.8	16.9	16.6	13.8	13.3	100.0	54.9	28.2
	10+ Years	13.9	9.9	24.7	19.9	16.3	15.2	100.0	61.7	26.3
	Total	17.5	15.4	19.5	18.6	15.4	13.6	100.0	56.8	27.8
Black	4-5 Years	17.2	19.7	22.7	20.4	8.1	11.9	100.0	51.9	26.8
	6-7 Years	18.8	20.4	19.2	18.4	16.0	7.1	100.0	50.9	26.5
	8-9 Years	21.0	16.3	19.8	14.9	16.8	11.3	100.0	55.0	28.0
	10+ Years	17.0	8.9	25.1	20.4	15.6	12.9	100.0	59.1	26.8
	Total	18.2	14.8	22.4	19.0	14.5	11.2	100.0	55.3	27.2
White	4-5 Years	15.4	18.1	19.6	26.5	7.7	12.7	100.0	54.2	26.6
	6-7 Years	17.6	16.8	18.3	16.4	17.0	13.9	100.0	54.9	28.0
	8-9 Years	12.0	12.7	21.1	19.0	19.5	15.8	100.0	62.6	25.7
	10+ Years	14.3	10.9	18.9	16.7	17.9	21.3	100.0	63.8	27.9
	Total	14.9	14.6	19.4	19.8	15.2	16.1	100.0	58.9	27.5

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Table 5 8 21 Behavior Problems Index: Headstrong Standard Scores by Child Age and Race/Ethnicity (1990 Weighted Distribution)

		70-84	85-99	100-114	115-129	130+	Total	Mean	Std. Dev.
Age of Child									
4-5 Years		16.0	28.3	43.4	12.3		100.0	102.0	12.7
6-7 Years		17.8	26.1	43.4	12.8		100.0	102.2	13.1
8-9 Years		14.5	13.9	38.4	33.1		100.0	105.2	12.7
10+ Years		9.5	24.5	30.2	35.7	0.1	100.0	106.3	13.6
Total		14.0	23.6	38.1	24.1	0.0	100.0	104.1	13.2
Race of Child	**Age of Child**								
Hispanic	4-5 Years	20.4	27.8	42.2	9.6		100.0	101.1	12.9
	6-7 Years	17.0	26.9	40.8	15.2		100.0	102.9	13.5
	8-9 Years	20.5	18.8	33.5	27.1		100.0	102.7	13.4
	10+ Years	7.4	25.8	35.3	31.5		100.0	105.8	12.9
	Total	15.2	24.8	37.5	22.6		100.0	103.5	13.3
Black	4-5 Years	17.2	31.8	39.1	11.9		100.0	101.2	12.8
	6-7 Years	18.8	29.6	44.4	7.1		100.0	100.5	12.2
	8-9 Years	21.0	16.3	34.7	28.1		100.0	102.7	13.2
	10+ Years	10.3	26.2	34.9	28.2	0.3	100.0	104.6	13.0
	Total	15.4	26.2	37.6	20.7	0.1	100.0	102.7	12.9
White	4-5 Years	15.4	27.6	44.3	12.7		100.0	102.2	12.7
	6-7 Years	17.6	25.1	43.4	13.9		100.0	102.5	13.3
	8-9 Years	12.0	12.7	40.0	35.3		100.0	106.2	12.4
	10+ Years	9.6	23.6	27.6	39.2		100.0	107.1	13.9
	Total	13.5	22.8	38.4	25.3		100.0	104.5	13.3

Table 5.8.22 Behavior Problems Index: Dependent Percentile Scores by Child Age and Race/Ethnicity (1990 Weighted Distribution)

		1-19	20-39	40-59	60-79	80-89	90-99	Total	Mean	Std. Dev.
Age of Child										
4-5 Years		25.5		27.9	22.0		24.5	100.0	58.4	27.9
6-7 Years			33.1	26.6	20.4		19.8	100.0	57.5	27.4
8-9 Years			33.3		29.5	21.4	15.8	100.0	60.4	26.6
10+ Years			38.3	6.2	27.2	15.7	12.6	100.0	58.4	25.9
Total		7.5	24.4	16.5	24.4	8.3	18.8	100.0	58.6	27.1
Race of Child	**Age of Child**									
Hispanic	4-5 Years	26.7		29.9	18.4		24.9	100.0	57.3	28.0
	6-7 Years		24.7	32.5	19.3		23.5	100.0	61.5	25.9
	8-9 Years		36.9		25.0	28.0	10.2	100.0	58.7	26.9
	10+ Years		40.9	5.8	19.5	20.5	13.3	100.0	58.3	26.9
	Total	6.7	25.5	16.7	20.8	12.5	17.8	100.0	58.9	27.0
Black	4-5 Years	21.7		20.5	19.2		38.6	100.0	64.9	28.9
	6-7 Years		22.9	23.8	26.1		27.2	100.0	65.2	26.6
	8-9 Years		31.6		27.1	22.6	18.8	100.0	62.2	26.9
	10+ Years		28.2	7.9	28.7	15.7	19.5	100.0	63.8	25.8
	Total	5.4	20.7	13.2	25.3	9.4	26.0	100.0	64.1	27.1
White	4-5 Years	26.2		29.2	22.9		21.7,	100.0	57.2	27.5
	6-7 Years		36.5	26.7	19.1		17.7	100.0	55.2	27.4
	8-9 Years		33.2		30.8	20.2	15.8	100.0	60.2	26.4
	10+ Years		41.5	5.6	27.7	15.1	10.1	100.0	56.5	25.6
	Total	8.2	25.3	17.3	24.6	7.6	17.1	100.0	57.3	26.9

Table 5.8.23 Behavior Problems Index: Dependent Standard Scores by Child Age and Race/Ethnicity (1990 Weighted Distribution)

		85-99	100-114	115-129	130+	Total	Mean	Std. Dev.
Age of Child								
4-5 Years		25.5	49.9	15.4	9.2	100.0	104.7	13.7
6-7 Years		33.1	47.0	14.4	5.4	100.0	104.0	13.1
8-9 Years		33.3	29.5	32.3	4.9	100.0	105.5	12.8
10+ Years		44.5	27.2	23.8	4.6	100.0	105.0	12.6
Total		33.2	39.7	20.9	6.2	100.0	104.7	13.1
Race of Child	**Age of Child**							
Hispanic	4-5 Years	26.7	48.3	16.7	8.2	100.0	104.2	13.7
	6-7 Years	24.7	51.8	16.7	6.8	100.0	105.9	12.7
	8-9 Years	36.9	25.0	32.2	6.0	100.0	104.7	12.9
	10+ Years	46.7	19.5	31.3	2.5	100.0	104.9	12.7
	Total	33.5	36.2	24.3	6.0	100.0	104.9	13.0
Black	4-5 Years	21.7	39.7	24.4	14.2	100.0	108.2	14.6
	6-7 Years	22.9	50.0	16.0	11.1	100.0	107.8	13.4
	8-9 Years	31.6	27.1	35.5	5.9	100.0	106.5	13.2
	10+ Years	36.1	28.7	28.7	6.6	100.0	107.8	13.1
	Total	28.0	36.5	26.0	9.5	100.0	107.6	13.6
White	4-5 Years	26.2	52.1	13.4	8.3	100.0	104.0	13.4
	6-7 Years	36.5	45.8	13.8	3.9	100.0	102.8	12.8
	8-9 Years	33.2	30.8	31.6	4.4	100.0	105.4	12.7
	10+ Years	47.1	27.7	21.1	4.2	100.0	104.0	12.3
	Total	34.5	40.9	19.2	5.4	100.0	104.0	12.9

Table 5.8.24 Behavior Problems Index: Anxious/Depressed Percentile Scores by Child Age and Race/Ethnicity (1990 Weighted Distribution)

		1-19	20-39	40-59	60-79	80-89	90-99	Total	Mean	Std. Dev.
Age of Child										
4-5 Years		15.7	16.7	30.2	21.5	5.6	10.3	100.0	53.3	27.7
6-7 Years		24.7		29.4	21.9	12.3	11.7	100.0	56.4	27.0
8-9 Years		20.3		26.8	21.4	13.0	18.5	100.0	60.4	26.9
10+ Years		15.2	3.1	28.9	19.2	13.8	19.8	100.0	61.4	26.5
Total		18.5	5.1	28.9	20.8	11.3	15.3	100.0	58.0	27.2
Race of Child	**Age of Child**									
Hispanic	4-5 Years	11.7	16.7	32.8	22.6	7.4	8.8	100.0	54.7	26.4
	6-7 Years	21.3		29.3	22.0	14.0	13.4	100.0	58.9	26.8
	8-9 Years	23.6		27.4	19.3	17.2	12.5	100.0	57.6	27.0
	10+ Years	14.8	3.9	35.5	17.2	14.6	14.0	100.0	58.5	25.2
	Total	17.6	4.8	31.7	19.8	13.6	12.4	100.0	57.6	26.3
Black	4-5 Years	14.1	11.0	29.5	25.6	5.2	14.6	100.0	58.4	27.5
	6-7 Years	19.9		30.8	27.3	14.1	7.9	100.0	58.1	25.1
	8-9 Years	22.6		29.5	25.4	10.5	12.0	100.0	56.5	25.6
	10+ Years	11.1	4.1	30.9	24.2	14.1	15.7	100.0	61.9	24.6
	Total	15.6	3.8	30.4	25.3	11.7	13.2	100.0	59.4	25.6
White	4-5 Years	16.4	17.9	30.1	20.6	5.6	9.6	100.0	52.2	27.8
	6-7 Years	26.2		29.1	20.6	11.6	12.5	100.0	55.7	27.5
	8-9 Years	19.3		26.0	20.6	13.1	21.0	100.0	61.8	27.1
	10+ Years	16.9	2.5	27.2	17.5	13.7	22.2	100.0	61.6	27.3
	Total	19.4	5.6	28.2	19.7	10.9	16.3	100.0	57.7	27.8

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Table 5.8.25 Behavior Problems Index: Anxious/Depressed Standard Scores by Child Age and Race/Ethnicity (1990 Weighted Distribution)

		85-99	100-114	115-129	130+	Total	Mean	Std. Dev.
Age of Child								
4-5 Years		32.4	51.7	10.4	5.5	100.0	102.3	13.8
6-7 Years		41.6	34.4	19.7	4.3	100.0	103.5	13.0
8-9 Years		33.8	34.6	23.5	8.1	100.0	105.6	13.4
10+ Years		33.4	39.6	19.0	8.0	100.0	106.1	13.3
Total		35.1	40.4	17.9	6.6	100.0	104.5	13.5
Race of Child	**Age of Child**							
Hispanic	4-5 Years	28.4	55.4	14.3	1.9	100.0	102.5	12.4
	6-7 Years	38.5	34.0	22.0	5.5	100.0	104.7	13.1
	8-9 Years	39.1	31.2	24.9	4.9	100.0	104.0	12.8
	10+ Years	35.8	41.8	17.5	4.8	100.0	104.4	12.2
	Total	35.6	40.5	19.5	4.4	100.0	104.0	12.6
Black	4-5 Years	25.1	55.1	14.4	5.4	100.0	104.7	13.8
	6-7 Years	37.2	40.8	17.4	4.5	100.0	104.0	12.0
	8-9 Years	38.4	39.1	19.5	3.1	100.0	103.4	12.0
	10+ Years	30.2	47.2	16.4	6.2	100.0	106.1	12.2
	Total	32.2	45.9	16.8	5.1	100.0	104.9	12.5
White	4-5 Years	34.2	50.7	9.3	5.8	100.0	101.8	13.8
	6-7 Years	43.0	32.9	20.0	4.1	100.0	103.3	13.2
	8-9 Years	32.0	34.0	24.3	9.8	100.0	106.4	13.7
	10+ Years	34.3	36.3	20.2	9.2	100.0	106.4	13.8
	Total	35.8	38.9	18.0	7.2	100.0	104.4	13.8

Table 5.8.26 Behavior Problems Index: Antisocial Percentile Scores by Child Age and Race/Ethnicity (1990 Weighted Distribution)

		20-39	40-59	60-79	80-89	90-99	Total	Mean	Std. Dev.
Age of Child									
4-5 Years		34.9	16.7	13.8	19.7	14.9	100.0	57.2	27.0
6-7 Years		35.6		27.1	18.4	18.9	100.0	58.4	26.9
8-9 Years		33.0		24.5	19.2	23.2	100.0	63.4	27.1
10+ Years		31.5	3.3	22.8	16.8	25.7	100.0	65.6	26.7
Total		33.6	5.3	21.8	18.4	20.9	100.0	61.4	27.1
Race of Child	**Age of Child**								
Hispanic	4-5 Years	28.5	18.6	12.9	22.1	17.9	100.0	61.1	26.5
	6-7 Years	29.7		26.8	19.3	24.2	100.0	62.3	26.7
	8-9 Years	32.9		31.0	15.6	20.5	100.0	61.6	26.0
	10+ Years	28.8	2.6	23.9	16.1	28.5	100.0	67.2	26.2
	Total	29.9	4.9	23.8	17.9	23.5	100.0	63.6	26.4
Black	4-5 Years	28.0	14.0	11.4	19.6	27.0	100.0	64.1	27.9
	6-7 Years	26.6		28.4	24.0	20.9	100.0	63.6	25.7
	8-9 Years	23.7		24.5	22.3	29.5	100.0	69.2	25.5
	10+ Years	21.9	3.7	21.9	20.7	31.8	100.0	71.6	25.0
	Total	24.4	4.3	21.7	21.5	28.2	100.0	68.0	26.1
White	4-5 Years	36.9	17.1	14.4	19.5	12.2	100.0	55.5	26.6
	6-7 Years	38.4		26.9	16.9	17.8	100.0	56.8	27.0
	8-9 Years	35.4		23.6	18.9	22.0	100.0	62.2	27.5
	10+ Years	35.7	3.2	22.9	15.3	22.9	100.0	63.0	27.0
	Total	36.6	5.6	21.6	17.6	18.6	100.0	59.3	27.2

Table 5.8.27 Behavior Problems Index: Antisocial Standard Scores by Child Age and Race/Ethnicity (1990 Weighted Distribution)

		85-99	100-114	115-129	130+	Total	Mean	Std. Dev.
Age of Child								
4-5 Years		34.9	49.5	12.2	3.4	100.0	104.1	13.2
6-7 Years		35.6	45.6	14.9	4.0	100.0	104.6	13.0
8-9 Years		33.0	33.2	24.4	9.4	100.0	107.8	14.1
10+ Years		34.7	22.8	34.8	7.7	100.0	108.9	14.1
Total		34.6	36.8	22.5	6.1	100.0	106.5	13.8
Race of Child	**Age of Child**							
Hispanic	4-5 Years	28.5	51.4	16.5	3.6	100.0	105.9	13.1
	6-7 Years	29.7	46.0	21.5	2.7	100.0	106.3	12.7
	8-9 Years	32.9	40.3	20.5	6.3	100.0	106.3	12.8
	10+ Years	31.4	23.9	37.3	7.4	100.0	109.6	13.9
	Total	30.8	38.1	25.8	5.4	100.0	107.4	13.4
Black	4-5 Years	28.0	43.6	20.0	8.4	100.0	108.1	14.9
	6-7 Years	26.6	52.5	14.4	6.4	100.0	107.1	13.0
	8-9 Years	23.7	36.4	29.6	10.4	100.0	110.5	13.7
	10+ Years	25.6	21.9	41.9	10.6	100.0	112.0	13.9
	Total	25.9	35.1	29.7	9.3	100.0	110.0	14.0
White	4-5 Years	36.9	50.5	10.3	2.3	100.0	103.2	12.7
	6-7 Years	38.4	43.8	14.3	3.5	100.0	103.8	12.9
	8-9 Years	35.4	31.4	23.5	9.6	100.0	107.3	14.3
	10+ Years	38.9	22.9	31.6	6.6	100.0	107.5	14.0
	Total	37.5	37.1	20.1	5.3	100.0	105.4	13.6

Table 5.8.28 Behavior Problems Index: Within-Year Correlations, 1990

	Total Behavior Problems	**Anti-social**	**Anxious/ Depressed**	**Headstrong**	**Hyperactive**	**Peer Conflict**	**Dependent**
Total Behavior Problems Score	---	.70	.76	.84	.78	.58	.62
Anti-Social Subscore	.70	---	.40	.54	.48	.48	.30
Anxious/Depressed Subscore	.76	.40	---	.58	.49	.46	.40
Headstrong Subscore	.84	.54	.58	---	.55	.40	.42
Hyperactive Subscore	.78	.48	.49	.55	---	.42	.38
Peer Conflict Subscore	.58	.48	.46	.40	.42	---	.29
Dependent Subscore	.62	.30	.40	.42	.38	.29	---

Table 5.8.29 Behavior Problems Index: Cross-Year Correlations

	BEHAVIOR PROBLEMS 1988 OR 1990							
	Age of Child in 1986							
	All Children		**4-6 Years**		**7-9 Years**		**10 Years and over**	
	1988	1990	1988	1990	1988	1990	1988	1990
BEHAVIOR PROBLEMS 1986	.59	.49	.57	.53	.61	.46	.63	.35
Antisocial Subscore	.44	.40	.41	.41	.47	.41	.44	.27
Anxious/Depressed Subscore	.44	.33	.45	.38	.45	.26	.40	.24
Headstrong Subscore	.46	.41	.44	.44	.47	.37	.56	.33
Hyperactive Subscore	.49	.41	.47	.43	.54	.46	.49	.20
Peer Conflict Subscore	.33	.32	.28	.29	.43	.39	.40	.33
Dependent Subscore	.43	.37	.41	.36	.55	.44	---	---
SAMPLE SIZE	2115	1659	1237	1011	646	487	232	161

Table 5.8.30 Behavior Problems Index: Cross-Year Correlations with PIAT Assessments

	Behavior Problems Total Score 1986
PIAT Mathematics, 1988	
All Children	-.16
4-6 Years in 1986	-.15
7-9 Years in 1986	-.12
10+ Years in 1986	-.16
PIAT Mathematics, 1990	
All Children	-.22
4-6 Years in 1986	-.19
7-9 Years in 1986	-.20
10+ Years in 1986	-.25
PIAT Reading Recognition, 1988	
All Children	-.16
4-6 Years in 1986	-.17
7-9 Years in 1986	-.09
10+ Years in 1986	-.22
PIAT Reading Recognition, 1990	
All Children	-.19
4-6 Years in 1986	-.15
7-9 Years in 1986	-.15
10+ Years in 1986	-.22
PIAT Reading Comprehension, 1988	
All Children	-.20
4-6 Years in 1986	-.21
7-9 Years in 1986	-.12
10+ Years in 1986	-.30
PIAT Reading Comprehension, 1990	
All Children	-.18
4-6 Years in 1986	-.12
7-9 Years in 1986	-.16
10+ Years in 1986	-.27

Table 5.8.31 Behavior Problems Index: Within-Year Correlations with Other Assessments, 1990

Age of Child	PIAT			HOME		DIGIT SPAN			PPVT	VERBAL MEMORY (A & B)
	Math	Reading Recog.	Reading Comp.	Cogn. Stim.	Emot. Support	Total	Forward	Backward		
TOTAL BPI										
All Children	-.13	-.16	-.18							
5-7 Years	-.09	-.12	-.14							
8-9 Years	-.11	-.20	-.20							
10-12 Years	-.11	-.15	-.14							
13 Yrs and Over	-.13	-.09	-.16							
TOTAL BPI										
All Children				-.22	-.17					
4-6 Years				-.23	-.20					
7-9 Years				-.25	-.18					
10 Years and Over				-.18	-.14					
TOTAL BPI										
All Children						-.17	-.07	-.14		
7-8 Years						-.14	-.11	-.12		
10-11 Years						-.17	-.08	-.22		
TOTAL BPI										
All Children									-.11	
4 Years									-.15	-.10
10-11 Years									-.08	

Table 5.8.32 Behavior Problems Index: Mean Percentile Scores by Child Age in 1988 and 1990

	Age of Child			
	4-5 Yrs	6-7 Yrs	8-9 Yrs	10 Yrs and over
Total Score				
1988	67.0	66.2	68.3	70.6
1990	55.9	59.7	64.6	65.8
Antisocial				
1988	60.8	62.4	65.1	69.4
1990	57.2	58.4	63.4	65.6
Anxious/Depressed				
1988	56.6	59.7	63.2	64.9
1990	53.3	56.4	60.4	61.4
Headstrong				
1988	56.2	57.8	60.7	64.5
1990	53.7	54.3	60.4	62.4
Hyperactive				
1988	64.7	65.3	63.8	65.2
1990	56.1	58.8	59.7	60.9
Dependent				
1988	62.7	64.0	63.0	64.5
1990	58.4	57.5	60.4	58.4
Peer Conflict				
1988	58.3	58.0	57.7	58.7
1990	57.4	57.8	57.1	58.9

Table 5.9.1 Body Parts: Standard Scores by Child Age and Race/Ethnicity (1988 Sample Cases)

		<85	85-99	100-114	115+	INVALID	VALID	TOTAL	% VALID
AGE OF CHILD									
1 Year		98	170	142	57	67	467	534	87.4
2 Years		81	193	224	23	57	521	578	90.1
Total		179	363	366	80	124	988	1112	88.8
RACE OF CHILD	**AGE OF CHILD**								
HISPANIC	1 Year	26	36	16	7	15	85	100	85.0
	2 Years	26	45	29	0	13	100	113	88.5
	Total	52	81	45	7	28	185	213	86.9
BLACK	1 Year	32	44	36	5	14	117	131	89.3
	2 Years	32	63	36	4	14	135	149	90.6
	Total	64	107	72	9	28	252	280	90.0
WHITE	1 Year	40	90	90	45	38	265	303	87.5
	2 Years	23	85	159	19	30	286	316	90.5
	Total	63	175	249	64	68	551	619	89.0

Table 5.9.2 Body Parts: Standard Scores by Child Age and Race/Ethnicity
(1988 Weighted Distribution)

		<85	85-99	100-144	115+	Total	Mean	Std Dev
Age of Child								
1 Year		15.8	34.7	33.3	16.2	100.0	100.0	15.0
2 Years		10.2	32.8	50.5	6.6	100.0	100.0	15.0
Total		12.8	33.7	42.4	11.1	100.0	100.0	15.0
RACE OF CHILD	**AGE OF CHILD**							
HISPANIC	1 Year	33.2	40.2	17.7	8.9	100.0	92.5	14.3
	2 Years	26.1	48.8	25.1		100.0	88.2	19.5
	Total	29.2	45.0	21.8	4.0	100.0	90.1	17.5
BLACK	1 Year	28.8	34.5	31.8	4.9	100.0	93.9	13.7
	2 Years	24.0	47.6	25.5	2.8	100.0	91.9	16.3
	Total	26.2	41.8	28.3	3.7	100.0	92.8	15.2
WHITE	1 Year	11.8	34.2	35.1	19.0	100.0	101.8	14.8
	2 Years	5.7	28.0	58.3	8.1	100.0	102.0	12.8
	Total	8.6	31.0	47.2	13.3	100.0	102.4	13.8

Table 5.9.3 Body Parts: Correlations with Other Assessment Scores by Child Age, 1988

Age of Child	HOME COGNITIVE STIMULATION	HOME EMOTIONAL SUPPORT	MOTOR AND SOCIAL DEVELOPMENT	MEMORY FOR LOCATION
Body Parts				
1 Year	.37*	.23*	.24*	.24*
2 Years	.28*	.22*	.25*	.17*

Note: * = significant at p < .01

Table 5.9.4 1986-1988 Cross-year Correlations:
Memory for Location and Body Parts (1986) Correlated with Verbal Memory and PPVT (1988)

	VERBAL MEMORY (A&B)-88	VERBAL MEMORY (C)-88	PPVT-88
MEMORY FOR LOCATION-86	.06**	.03	.13*
BODY PARTS-86	.10*	.07**	.21*

Note: * = Significant at p < .01; ** = Significant at p < .05; *** = significant at p < .1

Table 5.10.1 Memory for Location: Raw Scores by Child Age and Race/Ethnicity (1988 Sample Cases)

		0	1-3	4-6	7-9	10	INVALID	VALID	TOTAL	% Valid
AGE OF CHILD										
Under 2 Years		57	167	155	132	38	180	549	729	75.3
2 Years		51	2	77	224	153	69	500	569	87.9
3 Years		14			66	129	24	209	233	89.7
Total		122	169	225	422	320	273	1258	1531	82.2
RACE OF CHILD	**AGE OF CHILD**									
HISPANIC	Under 2	12	30	28	25	8	35	103	138	74.6
	2 Years	8		13	51	21	17	93	110	84.5
	3 Years	3			14	28	7	45	52	86.5
	Total	23	30	41	90	57	59	241	300	80.3
BLACK	Under 2	12	38	36	31	11	53	128	181	70.7
	2 Years	20	2	20	51	32	22	125	147	85.0
	3 Years	2			22	30	10	54	64	84.4
	Total	34	40	56	104	73	85	307	392	78.3
WHITE	Under 2	33	99	91	76	19	92	318	410	77.6
	2 Years	23		37	122	100	30	282	312	90.4
	3 Years	9			30	71	7	110	117	94.0
	Total	65	99	128	228	190	129	710	839	84.6

Table 5.10.2 Memory for Location: Percentile Scores by Child Age and Race/Ethnicity (1988 Weighted Distribution)

		0-19	20-39	40-59	60-79	80-89	90-99	Total	Mean	Std Dev
AGE OF CHILD										
Under 2 Years		21.7	26.8	10.9	15.9	9.8	14.9	100.0	49.4	30.2
2 Years		17.2	15.0	17.6	42.0	8.2		100.0	51.3	27.1
3 Years		11.5	12.0	8.6	67.9			100.0	56.1	22.2
Total		18.2	19.6	13.2	34.9	7.6	6.5	100.0	51.3	27.8
RACE OF CHILD	**AGE OF CHILD**									
HISPANIC	Under 2	20.4	27.2	11.7	14.6	11.7	14.6	100.0	50.8	29.6
	2 Years	11.8	23.7	20.4	38.7	5.4		100.0	50.3	24.5
	3 Years	2.2	15.6	8.9	73.3			100.0	60.6	16.9
	Total	13.7	23.7	14.5	3.9	7.1	6.2	100.0	52.4	25.3
BLACK	Under 2	21.9	27.3	10.9	11.7	10.2	18.0	100.0	49.6	31.5
	2 Years	28.0	12.8	19.2	34.4	5.6		100.0	44.4	29.4
	3 Years	11.1	18.5	9.3	61.1			100.0	53.7	22.3
	Total	22.5	19.9	14.0	29.6	6.5	7.5	100.0	48.2	29.0
WHITE	Under 2	22.0	26.4	10.7	17.9	9.1	13.8	100.0	48.9	29.9
	2 Years	14.2	13.1	16.0	46.5	10.3		100.0	54.8	26.3
	3 Years	15.5	7.3	8.2	69.1			100.0	55.4	23.9
	Total	17.9	18.2	12.4	37.2	8.2	6.2	100.0	52.2	27.5

Table 5.10.3 Memory for Location: Correlations with Other Assessment Scores by Child Age, 1988

Age	HOME COGNITIVE STIMULATION	HOME EMOTIONAL SUPPORT	MOTOR AND SOCIAL DEVELOPMENT	BODY PARTS	PPVT-R	VERBAL MEMORY (A & B)	VERBAL MEMORY (C)
Memory for Location							
8-11 Months	-.04	.06	-.03	----	----	----	----
1 Year	-.02	-.02	.15*	.24*	----	----	----
2 Years	.22*	.07	.12*	.17*	----	----	----
3 Years	.11	.02	.10	----	.07	.13***	11***

Note: * = significant at p < .01; ** = significant at p < .05; *** = significant at p < .10.

Table 5.10.4 Memory for Location: Cross-Year Correlations
(Children with Valid Score in Base Year)

	Verbal Memory (A&B) 1988 (1990)	**Verbal Memory (C) 1988 (1990)**	**PIAT Math 1990**	**PIAT Reading Recognition 1990**	**PIAT Reading Comprehension 1990**	**PPVT 1990**
Memory for Location, 1986	.10	.03[a]	.02[a]	-.02[a]	-.00[a]	
Memory for Location, 1988	(.11)	(.07)[a]				.11

Note: a = not significant at p < .05; ( ) are correlations between Memory for Location in 1988 and Verbal Memory in 1990

Table 5.11 Unweighted Sample Distribution of Children with Early Childhood Assessments in 1986 and Outcomes in 1990

1986 Assessment	PIAT Math	PIAT Reading Recognition	PIAT Reading Comprehension	BPI	SPPC
Body Parts					
12-23 mos	336	325	145	343	
24-35 mos	381	375	283	392	
Memory for Locations					
8-11 mos	120	113	15	122	
12-23 mos	341	329	140	343	
24-35 mos	333	330	250	346	
36-47 mos	379	375	356	374	180
Motor & Social Development					
0-11 mos	219	210	32	405	
12-23 mos	404	388	161	410	
24-35 mos	387	382	289	400	
36-47 mos	392	388	369	393	179

Table 5.12.1 Verbal Memory Parts A & B: Raw Scores by Child Age and Race/Ethnicity (1990 Sample Cases)

		0-4	5-9	10-14	15-19	20-24	25-29	30	Valid	Total	% Valid
Age of Child											
4 Years		23	23	67	116	119	59	1	408	451	90.5
5-6 Years		3	5	12	31	51	38	4	144	175	82.3
Total		26	28	79	147	170	97	5	552	626	88.2
Race of Child	**Age of Child**										
Hispanic	4 Years	4	7	19	25	26	5		86	104	82.7
	5-6 Years	3	3	4	13	14	3	1	41	52	78.8
	Total	7	10	23	38	40	8	1	127	156	81.4
Black	4 Years	5	8	19	41	32	20		125	136	91.9
	5-6 Years		2	4	9	20	6		48	53	90.6
	Total	5	10	23	50	52	32	1	173	189	91.5
White	4 Years	14	8	29	50	61	34	1	197	211	93.4
	5-6 Years			4	9	17	23	2	55	70	78.6
	Total	14	8	33	59	78	57	3	252	281	89.7

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Table 5.12.2 Verbal Memory Part C: Raw Scores by Child Age and Race/Ethnicity (1990 Sample Cases)

		0-4	5-9	10-14	Valid	Total	% Valid
Age of Child							
4 Years		240	139	5	384	451	85.1
5-6 Years		54	75	6	135	175	77.1
Total		294	214	11	519	626	82.9
Race of Child	**Age of Child**						
Hispanic	4 Years	48	29	1	78	104	75.0
	5 Years	18	18	2	38	52	73.1
	Total	66	47	3	116	156	74.4
Black	4 Years	80	39	1	120	136	88.2
	5-6 Years	18	27		45	53	84.9
	Total	98	66	1	165	189	87.3
White	4 Years	112	71	3	186	211	88.2
	5-6 Years	18	30	4	52	70	74.3
	Total	130	101	7	238	281	84.7

Table 5.12.3 Verbal Memory Parts A & B: Percentile Scores by Child Age and Race/Ethnicity (1990 Sample Cases)

		0	1-19	20-39	40-59	60-79	80-89	90-99	Valid	Total	% Valid
Age of Child											
4 Years		12	90	93	85	83	40	5	408	451	90.5
5-6 Years		7	40	35	23	31	6	2	144	175	82.3
Total		19	130	128	108	114	46	7	552	626	88.2
Race of Child	**Age of Child**										
Hispanic	4 Years	3	21	25	17	17	3		86	104	82.7
	5-6 Years	5	16	11	2	5	2		41	52	78.8
	Total	8	37	36	19	22	5		127	156	81.4
Black	4 Years	2	28	30	31	20	11	3	125	136	91.9
	5-6 Years	1	14	12	10	8	3		48	53	90.6
	Total	3	42	42	41	28	14	3	173	189	91.5
White	4 Years	7	41	38	37	46	26	2	197	211	93.4
	5-6 Years	1	10	12	11	18	1	2	55	70	78.6
	Total	8	51	50	48	64	27	4	252	281	89.7

Table 5.12.4 Verbal Memory Part C: Percentile Scores by Child Age and Race/Ethnicity (1990 Sample Cases)

		0	1-19	20-39	40-59	60-79	80-89	90-99	Valid	Total	% Valid
Age of Child											
4 Years			124	60	61	72	43	24	384	451	85.1
5-6 Years			33	22	13	15	7	3	93	121	76.9
6 Years		1	11	8	14	4	4		42	54	77.8
Total		1	168	90	88	91	54	27	519	626	82.9
Race of Child	**Age of Child**										
Hispanic	4 Years		28	7	13	18	7	5	78	104	75.0
	5-6 Years		18	5	8	4	3		38	52	73.1
	Total		46	12	21	22	10	5	116	156	74.4
Black	4 Years		34	27	21	21	13	4	120	136	88.2
	5-6 Years		13	13	10	6	3		45	53	84.9
	Total		47	40	31	27	16	4	165	189	87.3
White	4 Years		62	26	27	33	23	15	186	211	88.2
	5-6 Years	1	13	12	9	9	5	3	52	70	74.3
	Total	1	75	38	36	42	28	18	238	281	84.7

Table 5.12.5 Verbal Memory Parts A & B: Standard Scores by Child Age and Race/Ethnicity (1990 Weighted Distribution)

		1-69	70-84	85-99	100-114	115-129	Total	Mean	Std. Dev.
Age of Child									
4 Years		5.7	12.9	32.7	42.2	6.4	100.0	96.1	14.7
5-6 Years		6.6	16.2	30.8	42.5	3.8	100.0	94.9	16.6
Total		5.9	13.7	32.3	42.3	5.8	100.0	95.8	14.9
Race of Child	**Age of Child**								
Hispanic	4 Years	3.0	22.3	37.1	36.7	0.9	100.0	93.0	13.6
	5-6 Years	27.3	16.5	33.3	21.3	1.6	100.0	82.6	19.2
	Total	10.8	20.5	35.9	31.8	1.1	100.0	89.7	16.2
Black	4 Years	4.2	13.6	42.2	30.4	9.7	100.0	95.6	13.6
	5-6 Years	6.3	21.5	37.8	28.1	6.4	100.0	92.4	14.4
	Total	4.7	15.7	41.0	29.7	8.8	100.0	94.7	13.9
White	4 Years	6.2	12.0	30.4	45.1	6.2	100.0	96.4	15.2
	5-6 Years	3.7	14.8	28.7	49.3	3.5	100.0	97.3	13.5
	Total	5.7	12.6	30.0	46.1	5.6	100.0	96.6	14.8

Table 5.12.6 Verbal Memory Parts A & B: Standard Scores by Maternal Characteristics and Age of Child (1990 Weighted Distribution)

		1-69	70-84	85-99	100-114	115-129	Total	Mean	Std. Dev.
Maternal Education	**Age of Child**								
< 12 Years	4 Years	8.4	17.8	40.3	32.0	1.5	100.0	92.3	15.8
	5-6 Years	11.5	8.2	47.2	26.4	6.7	100.0	91.4	20.9
	Total	9.3	15.2	42.2	30.4	2.9	100.0	92.1	16.3
12 Years	4 Years	3.9	11.3	34.6	42.8	7.3	100.0	97.0	13.8
	5-6 Years	5.4	17.9	32.2	42.5	2.0	100.0	95.1	14.8
	Total	4.3	12.8	34.1	42.8	6.1	100.0	96.5	13.9
13+ Years	4 Years	6.5	12.8	27.4	45.8	7.5	100.0	96.6	15.0
	5-6 Years	5.3	18.6	20.3	51.3	4.4	100.0	96.5	15.2
	Total	6.3	14.1	25.8	47.0	6.8	100.0	96.6	15.1
Age of Mother at Birth of Child	**Age of Child**								
Under 20 Years	6 Years			90.6	9.4		100.0	95.2	6.4
	Total			90.6	9.4		100.0	95.2	6.4
20-24 Years	4 Years	1.9	13.9	35.3	44.8	4.1	100.0	97.1	12.7
	5-6 Years	4.2	20.6	34.7	36.9	3.7	100.0	93.5	15.5
	Total	2.6	15.9	35.1	42.4	4.0	100.0	96.0	13.3
25-29 Years	4 Years	8.1	12.3	31.1	40.6	7.9	100.0	95.4	15.9
	5-6 Years	10.1	11.5	22.8	51.4	4.2	100.0	96.7	17.0
	Total	8.5	12.2	29.6	42.5	7.2	100.0	95.6	16.0

Table 5.12.7 Verbal Memory Part C: Standard Scores by Child Age and Race/Ethnicity (1990 Weighted Distribution)

		1-69	70-84	85-99	100-114	115-129	130+	Total	Mean	Std. Dev.
Age of Child										
4 Years			20.8	34.6	33.8	10.4	0.4	100.0	97.1	14.6
5-6 Years		7.2	20.6	34.6	25.6	12.0		100.0	94.4	15.9
Total		1.7	20.8	34.6	31.8	10.8	0.3	100.0	96.5	14.9
Race of Child	**Age of Child**									
Hispanic	4 Years		28.0	24.9	36.8	10.3		100.0	95.6	14.8
	5-6 Years	7.3	38.5	27.6	14.1	12.5		100.0	89.7	14.7
	Total	2.3	31.4	25.8	29.5	11.0		100.0	93.7	15.3
Black	4 Years		16.2	43.4	35.9	4.5		100.0	96.5	12.4
	5-6 Years	7.1	22.7	38.1	27.6	4.4		100.0	92.0	14.3
	Total	1.9	17.9	42.0	33.7	4.5		100.0	95.3	13.0
White	4 Years		21.2	33.6	33.1	11.7	0.5	100.0	97.4	15.0
	5-6 Years	7.2	17.5	34.8	26.7	13.8		100.0	95.7	15.8
	Total	1.6	20.4	33.8	31.7	12.1	0.4	100.0	97.0	15.2

Table 5.12.8 Verbal Memory Part C: Standard Scores by Maternal Characteristics and Age of Child (1990 Weighted Distribution)

		1-69	70-84	85-99	100-114	115-129	130+	Total	Mean	Std. Dev.
Maternal Education	**Age of Child**									
< 12 Years	4 Years		23.1	36.3	34.8	5.8		100.0	95.2	13.7
	5-6 Years	14.9	19.8	37.6	24.5	3.2		100.0	90.3	14.5
	Total	4.6	22.1	36.7	31.6	5.0		100.0	93.7	14.5
12 Years	4 Years		22.5	33.7	31.5	12.3		100.0	96.9	14.4
	5-6 Years	6.6	26.2	28.8	33.4	5.5		100.0	93.5	15.2
	Total	1.3	23.3	32.6	31.9	10.8		100.0	96.2	14.6
13+ Years	4 Years		18.0	34.9	36.0	10.0	1.0	100.0	98.0	15.0
	5-6 Years	4.1	14.7	39.6	17.5	24.1		100.0	97.9	16.0
	Total	0.9	17.3	36.0	31.8	13.2	0.8	100.0	98.0	15.1

Table 5.12.9 Verbal Memory Parts A & B: Percentile Scores by Child Age and Race/Ethnicity (1990 Weighted Distribution)

		0	1-19	20-39	40-59	60-79	80-89	90-99	Total	Mean	Std. Dev.
Age of Child											
4 Years		2.9	21.2	20.9	19.6	22.6	11.6	1.2	100.0	44.5	27.3
5-6 Years		3.6	23.4	20.9	18.2	28.9	3.0	2.5	100.0	42.7	27.9
Total		3.1	21.7	20.9	19.3	24.1	9.5	1.5	100.0	44.1	27.3
Race of Child	**Age of Child**										
Hispanic	4 Years	2.4	23.9	29.1	21.7	19.5	3.4		100.0	37.1	24.5
	5-6 Years	17.3	36.4	22.1	4.1	16.2	4.0		100.0	25.7	25.0
	Total	7.2	27.9	26.9	16.1	18.4	3.6		100.0	33.5	25.4
Black	4 Years	1.4	24.0	25.9	21.4	16.4	8.8	2.2	100.0	41.8	25.9
	5-6 Years	2.4	28.6	25.4	21.6	15.6	6.4		100.0	36.9	25.8
	Total	1.6	25.2	25.7	21.5	16.2	8.1	1.6	100.0	40.5	25.9
White	4 Years	3.3	20.4	19.2	19.1	24.1	12.9	1.0	100.0	45.7	27.7
	5-6 Years	2.0	20.1	19.5	19.3	34.2	1.4	3.5	100.0	46.6	27.1
	Total	3.0	20.3	19.2	19.1	26.4	10.4	1.6	100.0	45.9	27.4

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Table 5.12.10 Verbal Memory Parts A & B: Percentile Scores by Maternal Characteristics and Age of Child (1990 Weighted Distribution)

Maternal Education	Age of Child	0	1-19	20-39	40-59	60-79	80-89	90-99	Total	Mean	Std. Dev.
< 12 Years	4 Years	4.9	25.5	22.2	20.1	16.9	10.5		100.0	37.9	27.1
	5-6 Years	8.9	15.5	40.9	11.5	16.7		6.7	100.0	36.6	29.1
	Total	6.0	22.7	27.3	17.7	16.8	7.6	1.8	100.0	37.5	26.8
12 Years	4 Years	2.1	19.3	24.4	19.1	22.8	11.1	1.0	100.0	45.7	26.5
	5-6 Years	1.0	26.2	23.4	19.0	26.0	4.3		100.0	42.2	26.9
	Total	1.9	20.9	24.2	19.1	23.6	9.6	0.8	100.0	44.9	26.4
13+ Years	4 Years	3.1	21.6	16.3	20.0	24.7	12.6	1.8	100.0	45.8	27.9
	5-6 Years	3.9	24.3	7.0	20.8	39.0	2.0	3.1	100.0	46.5	27.1
	Total	3.3	22.2	14.2	20.2	27.9	10.2	2.1	100.0	46.0	28.0

Table 5.12.11 Verbal Memory Part C: Percentile Scores by Child Age and Race/Ethnicity (1990 Weighted Distribution)

		0	1-19	20-39	40-59	60-79	80-89	90-99	Total	Mean	Std. Dev.
Age of Child											
4 Years			32.6	14.9	14.6	18.2	12.3	7.4	100.0	44.4	29.7
5-6 Years		1.0	27.4	24.0	17.9	16.2	7.7	9.0	100.0	41.2	29.8
Total		0.2	31.3	17.0	15.4	17.7	11.6	6.7	100.0	43.6	29.6
Race of Child	**Age of Child**										
Hispanic	4 Years		37.2	7.9	17.4	23.6	8.5	5.4	100.0	42.3	29.8
	5-6 Years		47.6	10.2	19.6	10.1	12.5		100.0	32.6	26.5
	Total		40.6	8.6	18.1	19.2	9.8	3.6	100.0	39.2	30.1
Black	4 Years		26.5	23.8	15.3	18.3	13.1	3.0	100.0	43.1	26.6
	5-6 Years		31.7	26.1	23.4	14.4	4.4		100.0	36.1	26.5
	Total		27.9	24.4	17.4	17.3	10.8	2.2	100.0	41.2	26.6
White	4 Years		33.5	13.6	14.3	17.7	12.5	8.5	100.0	44.8	30.3
	5-6 Years	1.4	23.4	25.4	16.2	17.5	9.7	6.4	100.0	43.7	29.9
	Total	0.3	31.2	16.2	14.7	17.6	11.9	8.0	100.0	44.6	30.1

Table 5.12.12 Verbal Memory Part C: Percentile Scores by Maternal Characteristics and Age of Child (1990 Weighted Distribution)

Maternal Education	Age of Child	0	1-19	20-39	40-59	60-79	80-89	90-99	Total	Mean	Std. Dev.
< 12 Years	4 Years		30.7	20.7	16.9	18.5	7.4	5.8	100.0	40.6	18.1
	5-6 Years	4.7	32.6	26.0	16.9	16.7	3.2		100.0	34.2	16.8
	Total	1.4	31.3	22.3	16.9	17.9	6.1	4.4	100.0	38.7	
12 Years	4 Years		33.2	13.0	17.8	16.6	12.1	7.4	100.0	44.2	29.6
	5-6 Years		32.3	20.6	15.8	25.8	1.9	3.6	100.0	39.2	28.2
	Total		33.0	14.7	17.3	18.6	9.9	6.6	100.0	43.1	29.4
13+ Years	4 Years		32.6	14.8	10.1	20.0	14.5	8.0	100.0	46.0	30.5
	5-6 Years		18.8	26.7	20.7	5.1	20.3	8.4	100.0	47.4	31.0
	Total		29.5	17.5	12.5	16.6	15.8	8.1	100.0	46.3	30.5

Table 5.12.13 Verbal Memory: Cross and Within-Year Correlations

	1990				
	Verbal (A&B)	Verbal (C)	PPVT	HOME Emotional Support	HOME Cognitive Stimulation
Within Year (4-5 year-olds in 1990)					
Verbal (A & B)	---	.49	.30	.14	.20
Verbal (C)	.49	---	.10	.05ᵃ	.14

	PIAT READING RECOGNITION		PIAT READING COMPREHENSION	
			1988	199019881990
Cross Year				
Verbal (A&B)				
3 Years and Over in 1986	.25	.29	.26	.30
3-4 Years in 1986	.20	.28	.20	.34
5-6 Years in 1986	.28	.28	.29	.29
Verbal (C)				
3 Years and Over in 1986	.10	.16	.15	.17
3-4 Years in 1986	.07ᵃ	.14	.07ᵃ	.14
5-6 Years in 1986	.10	.17	.17	.18

Note: a = not significant at p < .05.

Table 5.13.1 Digit Span: Total Raw Scores by Child Age and Race/Ethnicity (1990 Sample Cases)

		0-4	5-7	8-10	11-13	14-16	17-23	24	Valid	Total	% Valid
Age of Child											
7-9 Years		43	221	362	210	30	10		876	971	90.2
10+ Years		5	69	198	191	90	47	1	601	685	87.7
Total		48	290	560	401	120	57	1	1477	1656	89.2
Race of Child	**Age of Child**										
Hispanic	7-9 Years	17	65	97	41	5	1		226	252	89.7
	10+ Years	1	21	45	39	17	7		130	155	83.9
	Total	18	86	142	80	22	8		356	407	87.5
Black	7-9 Years	20	74	125	79	10	5		313	335	93.4
	10+ Years	3	27	96	70	41	19	1	257	278	92.4
	Total	23	101	221	149	51	24	1	570	613	93.0
White	7-9 Years	6	82	140	90	15	4		337	384	87.8
	10+ Years	1	21	57	82	32	21		214	252	84.9
	Total	7	103	197	172	47	25		551	636	86.6

Table 5.13.2 Digit Span: Forward Raw Scores by Child Age and Race/Ethnicity (1990 Sample Cases)

		0-3	4	5	6	7	8	9-14	Valid	Total	% Valid
Age of Child											
7-9 Years		125	210	168	143	98	82	54	880	971	90.6
10+ Years		35	78	95	96	98	89	111	602	685	87.9
Total		160	288	263	239	196	171	165	1482	1656	89.5
Race of Child	**Age of Child**										
Hispanic	7-9 Years	46	53	48	40	22	12	6	227	252	90.1
	10+ Years	10	23	27	18	19	15	18	130	155	83.9
	Total	56	76	75	58	41	27	24	357	407	87.7
Black	7-9 Years	40	61	63	55	34	34	26	313	335	93.4
	10+ Years	12	31	41	46	37	38	52	257	278	92.4
	Total	52	92	104	101	71	72	78	570	613	93.0
White	7-9 Years	39	96	57	48	42	36	22	340	384	88.5
	10+ Years	13	24	27	32	42	36	41	215	252	85.3
	Total	52	120	84	80	84	72	63	555	636	87.3

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Table 5.13.3 Digit Span: Backward Raw Scores by Child Age and Race/Ethnicity (1990 Sample Cases)

		0-3	4	5	6	7	8	9-14	Valid	Total	% Valid
Age of Child											
7-9 Years		442	237	112	52	22	6	5	876	971	90.2
10+ Years		153	169	99	94	47	20	23	605	685	88.3
Total		595	406	211	146	69	26	28	1481	1656	89.4
Race of Child	**Age of Child**										
Hispanic	7-9 Years	114	63	33	13	2		1	226	252	89.7
	10+ Years	36	41	18	21	8	4	4	132	155	85.2
	Total	150	104	51	34	10	4	5	358	407	88.0
Black	7-9 Years	177	68	40	15	7	5	1	313	335	93.4
	10+ Years	76	70	35	43	17	8	9	258	278	92.8
	Total	253	138	75	58	24	13	10	571	613	93.1
White	7-9 Years	151	106	39	24	13	1	3	337	384	87.8
	10+ Years	41	58	46	30	22	8	10	215	252	85.3
	Total	192	164	85	54	35	9	13	552	636	86.8

Table 5.13.4 Digit Span: Standard Scores by Child Age and Race/Ethnicity (1990 Weighted Distribution)

		1-4	5-7	8-9	10-11	12-13	14-19	Total	Mean	Std. Dev.
Age of Child										
7-9 Years		3.0	17.9	28.7	21.0	19.5	9.8	100.0	9.8	3.0
10+ Years		5.3	24.5	14.9	23.1	22.3	9.8	100.0	9.7	3.3
Total		4.0	20.6	23.1	21.9	20.6	9.8	100.0	9.8	3.1
Race of Child	**Age of Child**									
Hispanic	7-9 Years	6.4	22.4	31.5	22.7	11.5	5.4	100.0	8.8	2.9
	10+ Years	7.4	38.9	13.1	18.4	14.4	7.8	100.0	8.7	3.3
	Total	6.8	29.1	24.1	21.0	12.7	6.4	100.0	8.8	3.1
Black	7-9 Years	5.5	18.5	27.1	18.3	20.2	10.3	100.0	9.7	3.2
	10+ Years	5.2	27.4	20.1	18.9	19.9	8.4	100.0	9.5	3.3
	Total	5.3	22.5	24.0	18.6	20.1	9.5	100.0	9.6	3.3
White	7-9 Years	1.9	17.2	28.8	21.6	20.3	10.3	100.0	9.9	2.9
	10+ Years	5.1	21.6	13.3	25.2	24.2	10.6	100.0	10.0	3.2
	Total	3.2	18.9	22.7	23.0	21.8	10.4	100.0	9.9	3.0

Table 5.13.5 Digit Span: Standard Scores by Maternal Characteristics and Child Age (1990 Weighted Distribution)

		1-4	5-7	8-9	10-11	12-13	14-19	Total	Mean	Std. Dev.
Maternal Education	**Age of Child**									
< 12 Years	7-9 Years	3.4	27.6	28.7	18.8	15.3	6.3	100.0	9.0	2.8
	10+ Years	4.9	31.7	17.8	19.3	18.4	7.9	100.0	9.2	3.2
	Total	4.1	29.5	23.7	19.0	16.7	7.0	100.0	9.1	3.0
12 Years	7-9 Years	2.2	16.7	27.3	22.8	21.2	9.9	100.0	10.0	2.9
	10+ Years	5.3	21.9	13.4	23.2	25.0	11.2	100.0	9.9	3.2
	Total	3.4	18.7	21.9	23.0	22.6	10.4	100.0	10.0	3.1
13+ Years	7-9 Years	4.3	10.0	31.7	20.3	20.3	13.5	100.0	10.2	3.1
	10+ Years	6.2	19.3	13.8	28.4	22.2	10.1	100.0	10.1	3.4
	Total	5.0	13.6	24.7	23.5	21.0	12.2	100.0	10.1	3.2
Mother's Age at Birth of Child	**Age of Child**									
Under 20 Years	7-9 Years	4.0	27.2	28.0	19.4	14.4	6.9	100.0	9.1	3.0
	10+ Years	7.3	24.8	18.8	19.0	21.1	9.0	100.0	9.4	3.3
	Total	5.9	25.8	22.6	19.2	18.4	8.2	100.0	9.3	3.2
20-24 Years	7-9 Years	3.2	15.6	28.6	20.8	22.0	9.8	100.0	9.9	3.0
	10+ Years	3.7	24.3	11.6	26.5	23.3	10.5	100.0	10.0	3.2
	Total	3.4	18.8	22.5	22.8	22.5	10.0	100.0	10.0	3.1
25-29 Years	7-9 Years		13.5	30.9	25.5	14.3	15.7	100.0	10.4	2.5

Table 5.13.6 Digit Span: Forward Raw Scores by Child Age and Race/Ethnicity (1990 Sample Cases)

		0-3	4	5	6	7	8	9-14	Total	Mean	Std. Dev.
Age of Child											
7-9 Years		12.7	26.0	17.6	15.5	11.6	10.3	6.1	100.0	5.4	1.9
10+ Years		5.4	11.9	14.7	14.7	17.5	16.5	19.3	100.0	6.7	2.2
Total		9.7	20.3	16.4	15.2	14.0	12.9	11.5	100.0	5.9	2.1
Race of Child	**Age of Child**										
Hispanic	7-9 Years	21.0	24.3	20.3	17.4	9.1	5.3	2.7	100.0	4.9	1.8
	10+ Years	7.6	17.6	23.0	13.1	13.9	10.0	14.7	100.0	6.1	2.1
	Total	15.6	21.6	21.4	15.7	11.0	7.2	7.6	100.0	5.3	2.0
Black	7-9 Years	13.5	19.7	19.6	17.4	10.0	12.1	7.7	100.0	5.6	2.0
	10+ Years	4.2	11.5	15.9	17.1	14.6	15.4	21.3	100.0	6.8	2.3
	Total	9.3	16.0	17.9	17.2	12.1	13.6	13.9	100.0	6.1	2.2
White	7-9 Years	11.4	28.0	16.8	14.8	12.4	10.5	6.2	100.0	5.5	1.9
	10+ Years	5.5	11.2	13.2	14.1	19.0	17.8	19.2	100.0	6.7	2.1
	Total	9.1	21.4	15.3	14.5	15.0	13.4	11.3	100.0	6.0	2.1

Table 5.13.7 Digit Span: Forward Raw Scores by Maternal Characteristics and Child Age (1990 Weighted Distribution)

		0-3	4	5	6	7	8	9-14	Total	Mean	Std. Dev.
Maternal Education	**Age of Child**										
< 12 Years	7-9 Years	17.7	29.4	18.5	13.5	11.7	6.2	3.1	100.0	5.0	1.8
	10+ Years	6.1	12.6	21.9	11.1	20.4	12.0	15.9	100.0	6.4	2.1
	Total	12.4	21.8	20.0	12.4	15.6	8.9	8.9	100.0	5.6	2.1
12 Years	7-9 Years	11.2	24.9	16.9	17.1	11.0	10.6	8.4	100.0	5.6	1.9
	10+ Years	6.0	11.4	9.9	15.9	18.9	16.8	21.1	100.0	6.8	2.2
	Total	9.2	19.7	14.2	16.6	14.0	13.0	13.3	100.0	6.1	2.1
13+ Years	7-9 Years	10.1	24.5	18.3	15.0	12.9	13.9	5.3	100.0	5.6	1.9
	10+ Years	3.5	11.9	13.5	17.8	10.9	22.6	19.7	100.0	6.9	2.1
	Total	7.5	19.6	16.4	16.1	12.1	17.3	10.9	100.0	6.1	2.1
Mother's Age at Birth of Child	**Age of Child**										
Under 20 Years	7-9 Years	18.7	28.2	17.0	14.8	9.4	6.6	5.3	100.0	5.1	1.9
	10+ Years	8.8	11.4	17.0	14.3	15.3	13.7	19.4	100.0	6.5	2.2
	Total	12.9	18.3	17.0	14.5	12.9	10.8	13.6	100.0	5.9	2.2
20-24 Years	7-9 Years	11.0	26.0	17.5	15.1	12.1	11.6	6.7	100.0	5.5	2.0
	10+ Years	2.5	12.3	12.8	15.0	19.3	19.0	19.1	100.0	6.9	2.1
	Total	7.9	21.1	15.8	15.1	14.7	14.3	11.2	100.0	6.0	2.1
25-29 Years	7-9 Years	11.5	21.8	19.6	19.6	13.4	9.7	4.3	100.0	5.5	1.7

Table 5.13.8 Digit Span: Backward Raw Scores by Child Age and Race/Ethnicity (1990 Weighted Distribution)

		0-2	3	4	5	6	7-11	Total	Mean	Std. Dev.
Age of Child										
7-9 Years		19.0	28.9	29.2	12.0	6.2	4.8	100.0	3.7	1.5
10+ Years		9.2	12.7	26.9	18.8	14.7	17.7	100.0	4.8	1.8
Total		15.0	22.3	28.2	14.8	9.7	10.1	100.0	4.2	1.8
Race of Child	**Age of Child**									
Hispanic	7-9 Years	25.2	24.4	27.6	15.4	6.4	1.0	100.0	3.5	1.5
	10+ Years	9.3	19.6	30.7	12.7	15.5	12.3	100.0	4.5	1.8
	Total	18.7	22.4	28.9	14.3	10.1	5.7	100.0	3.9	1.7
Black	7-9 Years	27.2	29.7	22.6	12.0	4.1	4.4	100.0	3.4	1.6
	10+ Years	11.8	18.0	26.8	12.3	17.6	13.4	100.0	4.6	1.9
	Total	20.2	24.4	24.5	12.1	10.2	8.5	100.0	3.9	1.8
White	7-9 Years	15.8	29.3	31.2	11.6	6.7	5.4	100.0	3.8	1.5
	10+ Years	8.3	9.9	26.4	22.0	13.6	19.9	100.0	5.0	1.8
	Total	12.8	21.6	29.3	15.7	9.4	11.1	100.0	4.3	1.7

Table 5.13.9 Digit Span: Backward Raw Scores by Maternal Characteristics and Child Age (1990 Weighted Distribution)

		0-2	3	4	5	6	7-11	Total	Mean	Std. Dev.
Maternal Education	**Age of Child**									
< 12 Years	7-9 Years	27.4	31.0	23.7	9.7	4.8	3.4	100.0	3.4	1.4
	10+ Years	8.7	19.2	28.7	16.6	15.9	11.0	100.0	4.6	1.7
	Total	18.9	25.6	26.0	12.8	9.9	6.8	100.0	3.9	1.7
12 Years	7-9 Years	16.3	30.4	30.3	11.2	7.5	4.3	100.0	3.7	1.4
	10+ Years	8.9	11.0	26.7	19.7	12.2	21.5	100.0	4.9	1.8
	Total	13.4	22.9	28.9	14.5	9.3	11.0	100.0	4.2	1.7
13+ Years	7-9 Years	14.8	24.0	32.6	16.1	5.2	7.3	100.0	3.9	1.7
	10+ Years	10.6	6.8	25.0	20.6	16.8	20.2	100.0	5.1	1.9
	Total	13.2	17.3	29.6	17.8	9.7	12.3	100.0	4.4	1.9
Mother's Age at Birth of Child	**Age of Child**									
Under 20 Years	7-9 Years	25.3	30.0	25.8	9.7	6.7	2.6	100.0	3.4	1.4
	10+ Years	9.2	12.7	30.7	18.5	13.9	15.0	100.0	4.7	1.8
	Total	15.8	19.8	28.7	14.9	10.9	9.9	100.0	4.2	1.8
20-24 Years	7-9 Years	18.0	25.8	31.0	13.2	6.7	5.2	100.0	3.8	1.6
	10+ Years	9.2	12.7	23.7	19.1	15.4	19.9	100.0	4.9	1.8
	Total	14.8	21.1	28.4	15.4	9.9	10.5	100.0	4.2	1.8
25-29 Years	7-9 Years	12.3	45.3	25.0	9.2	1.7	6.5	100.0	3.6	1.3

Table 5.13.10 Digit Span: Within-Year Correlations with Peabody Assessments, 1990

Age of Child	PIAT Mathematics	PIAT Reading Recognition	PIAT Reading Comprehension	PPVT[1]
Digit Span				.33
7-8 Years	.37	.41	.38	
10-11 Years	.41	.50	.39	
"Forward" (Raw)				.25
7-8 Years	.24	.30	.30	
10-11 Years	.30	.39	.30	
"Backward" (Raw)				.26
7-8 Years	.33	.38	.33	
10-11 Years	.40	.44	.35	

[1] For all children with scores on Digit Span and PPVT. This includes primarily 10 and 11 year-olds.

Table 5.13.11 Digit Span: Cross-Year Correlations

	PIAT MATHEMATICS			PIAT READING RECOGNITION			PIAT READING COMPREHENSION			DIGIT SPAN 1988[1]		
Age of Child	1986	1988	1990	1986	1988	1990	1986	1988	1990	Total	Forward	Backward
Digit Span 1986										.49	.48	.30
7-8 Years	.36	.35	.32	.42	.37	.32	.36	.35	.29			
10-11 Years	.42	.39	.43	.44	.46	.43	.41	.40	.40			
Digit Forward 1986										.46	.54	.19
7-8 Years	.23	.21	.22	.30	.25	.22	.23	.21	.17			
10-11 Years	.25	.23	.26	.32	.35	.33	.27	.24	.30			
Digit Backward 1986										.30	.18	.35
7-8 Years	.33	.37	.30	.37	.29	.31	.31	.32	.25			
10-11 Years	.40	.40	.42	.34	.34	.31	.37	.34	.31			

[1] Mostly children who are 10 or 11 in 1988.

Table 5.14.1 SPPC Scholastic Competence: Raw Scores by Child Age and Race/Ethnicity (1990 Sample Cases)

		5-9.9	10-14.9	15-19.9	20-24.9	Valid	Total	% Valid
Age of Child								
8 Years		18	110	182	123	433	462	93.7
9 Years		11	104	145	115	375	396	94.7
10 Years		15	100	143	95	353	379	93.1
11+ Years		31	220	358	237	846	917	92.3
Total		75	534	828	570	2007	2154	93.2
Race of Child	**Age of Child**							
Hispanic	8 Years	5	35	51	34	125	136	91.9
	9 Years	4	27	31	21	83	85	97.6
	10 Years	2	32	21	19	74	83	89.2
	11+ Years	3	59	67	42	171	196	87.2
	Total	14	153	170	116	453	500	90.6
Black	8 Years	4	36	68	42	150	156	96.2
	9 Years	2	33	63	41	139	145	95.9
	10 Years	8	38	65	33	144	150	96.0
	11+ Years	16	103	189	117	425	438	97.0
	Total	30	210	385	233	858	889	96.5
White	8 Years	9	39	63	47	158	170	92.9
	9 Years	5	44	51	53	153	166	92.2
	10 Years	5	30	57	43	135	146	92.5
	11+ Years	12	58	102	78	250	283	88.3
	Total	31	171	273	221	696	765	91.0

Table 5.14.2 SPPC Global Self-Worth: Raw Scores by Child Age and Race/Ethnicity (1990 Sample Cases)

		5-9.9	10-14.9	15-19.9	20-24.9	Valid	Total	% Valid
Age of Child								
8 Years		2	32	123	276	433	462	93.7
9 Years		2	22	105	246	375	396	94.7
10 Years		1	26	105	221	353	379	93.1
11+ Years		12	67	242	525	846	917	92.3
Total		17	147	575	1268	2007	2154	93.2
Race of Child	**Age of Child**							
Hispanic	8 Years		13	37	75	125	136	91.9
	9 Years		6	30	47	83	85	97.6
	10 Years	1	5	26	42	74	83	89.2
	11+ Years	2	13	51	105	171	196	87.2
	Total	3	37	144	269	453	500	90.6
Black	8 Years	1	8	52	89	150	156	96.2
	9 Years		10	44	85	139	145	95.9
	10 Years		11	47	86	144	150	96.0
	11+ Years	9	29	123	264	425	438	97.0
	Total	10	58	266	524	858	889	96.5
White	8 Years	1	11	34	112	158	170	92.9
	9 Years	2	6	31	114	153	166	92.2
	10 Years		10	32	93	135	146	92.5
	11+ Years	1	25	68	156	250	283	88.3
	Total	4	52	165	475	696	765	91.0

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Table 5.14.3 SPPC Scholastic Competence: Raw Scores by Maternal Characteristics and Age of Child (1990 Weighted Distribution)

		5-9.9	10-14.9	15-19.9	20-24.9	Total	Mean	Std. Dev.
Maternal Education	**Age of Child**							
< 12 Years	8 Years	8.2	32.0	38.4	21.4	100.0	16.1	43.9
	9 Years	4.6	34.9	31.3	29.2	100.0	16.2	42.4
	10 Years	2.5	27.8	50.1	19.6	100.0	16.5	36.9
	11+ Years	4.3	29.8	38.7	27.2	100.0	16.6	42.1
	Total	4.7	30.7	39.1	25.5	100.0	16.4	41.8
12 Years	8 Years	3.8	26.7	37.3	32.2	100.0	17.0	42.7
	9 Years	3.4	26.4	40.7	29.5	100.0	17.0	40.1
	10 Years	4.1	24.8	39.8	31.4	100.0	17.2	44.0
	11+ Years	4.3	22.2	43.0	30.5	100.0	17.2	42.1
	Total	3.9	24.6	40.7	30.8	100.0	17.1	42.2
13+ Years	8 Years	2.4	14.8	47.8	35.0	100.0	17.9	37.4
	9 Years		22.4	30.8	46.8	100.0	18.2	37.4
	10 Years	2.9	18.4	36.3	42.4	100.0	17.9	40.0
	11+ Years	0.7	17.1	47.0	35.2	100.0	17.9	36.3
	Total	1.4	17.8	42.0	38.8	100.0	17.9	37.6
Mother's Age at Birth of Child	**Age of Child**							
Under 20 years	8 Years	5.6	30.4	36.9	27.2	100.0	16.7	43.3
	9 Years	3.5	24.4	37.0	35.1	100.0	17.4	41.5
	10 Years	3.5	25.3	42.1	29.1	100.0	17.0	40.4
	11+ Years	4.0	25.2	40.2	30.6	100.0	17.1	42.1
	Total	4.0	25.6	39.8	30.6	100.0	17.1	41.9
20-24 Years	8 Years	4.6	23.6	42.2	29.5	100.0	17.0	41.8
	9 Years	2.9	29.7	35.4	32.0	100.0	16.8	40.5
	10 Years	3.2	23.7	41.5	31.5	100.0	17.2	42.1
	11+ Years	2.7	22.7	47.8	26.8	100.0	16.9	39.0
	Total	3.4	25.2	41.3	30.1	100.0	17.0	41.0
25-29 Years	8 Years		17.8	35.0	47.3	100.0	18.9	35.5

Table 5.14.4 SPPC Scholastic Competence: Raw Scores by Child Age and Race/Ethnicity (1990 Weighted Distribution)

		5-9.9	10-14.9	15-19.9	20-24.9	Total	Mean	Std. Dev.
Age of Child								
8 Years		4.7	25.1	40.6	29.6	100.0	17.0	4.2
9 Years		3.1	28.1	35.9	33.0	100.0	17.0	4.1
10 Years		3.3	24.4	41.8	30.4	100.0	17.1	4.1
11+ Years		3.7	24.6	42.0	29.7	100.0	17.0	4.1
Total		3.7	25.3	40.5	30.5	100.0	17.0	4.2
Race of Child	**Age of Child**							
Hispanic	8 Years	4.9	24.5	41.5	29.0	100.0	16.9	4.1
	9 Years	7.0	32.3	36.6	24.1	100.0	16.1	4.3
	10 Years	2.6	39.4	29.7	28.3	100.0	16.3	4.0
	11+ Years	1.8	35.3	38.0	24.9	100.0	16.6	3.8
	Total	3.6	32.8	37.3	26.3	100.0	16.5	4.0
Black	8 Years	2.7	25.8	44.0	27.4	100.0	17.1	4.0
	9 Years	1.5	24.8	45.9	27.9	100.0	17.1	3.7
	10 Years	5.5	26.8	43.9	23.7	100.0	16.4	4.0
	11+ Years	2.9	24.6	44.8	27.7	100.0	17.1	3.9
	Total	3.1	25.2	44.7	27.0	100.0	17.0	3.9
White	8 Years	5.2	24.9	39.5	30.3	100.0	17.0	4.3
	9 Years	3.0	28.5	33.2	35.3	100.0	17.1	4.1
	10 Years	2.7	21.7	42.7	32.9	100.0	17.4	4.2
	11+ Years	4.3	23.0	41.2	31.5	100.0	17.1	4.3
	Total	3.9	24.3	39.4	32.3	100.0	17.1	4.3

Table 5.14.5 SPPC Global Self-Worth: Raw Scores by Child Age and Race/Ethnicity (1990 Weighted Distribution)

		5-9.9	10-14.9	15-19.9	20-24.9	Total	Mean	Std. Dev.
Age of Child								
8 Years		0.3	7.1	24.9	67.8	100.0	20.3	3.2
9 Years		0.9	4.6	23.1	71.5	100.0	20.7	3.2
10 Years		0.1	7.3	25.4	67.2	100.0	20.5	3.4
11+ Years		1.0	9.0	27.8	62.2	100.0	19.9	3.7
Total		0.7	7.5	25.9	66.0	100.0	20.3	3.5
Race of Child	**Age of Child**							
Hispanic	8 Years		13.1	26.6	60.3	100.0	19.5	3.5
	9 Years		8.4	33.4	58.2	100.0	19.8	3.4
	10 Years	1.0	5.6	34.0	59.4	100.0	20.0	3.5
	11+ Years	0.9	7.7	30.9	60.5	100.0	19.7	3.4
	Total	0.6	8.8	30.8	59.9	100.0	19.7	3.4
Black	8 Years	1.3	5.3	35.5	58.0	100.0	20.0	3.5
	9 Years		6.8	30.0	63.3	100.0	20.0	3.3
	10 Years		8.2	31.2	60.6	100.0	20.1	3.6
	11+ Years	2.1	6.4	28.9	62.6	100.0	19.9	3.7
	Total	1.3	6.6	30.5	61.6	100.0	20.0	3.6
White	8 Years	0.0	6.6	21.7	71.7	100.0	20.5	3.1
	9 Years	1.2	3.5	20.1	75.2	100.0	21.0	3.2
	10 Years		7.3	22.4	70.3	100.0	20.7	3.2
	11+ Years	0.4	10.5	26.8	62.3	100.0	20.0	3.8
	Total	0.4	7.6	23.5	68.5	100.0	20.4	3.4

Table 5.14.6 SPPC Global Self-Worth: Raw Scores by Maternal Characteristics and Age of Child (1990 Weighted Distribution)

		5-9.9	10-14.9	15-19.9	20-24.9	Total	Mean	Std. Dev.
Maternal Education	**Age of Child**							
< 12 Years	8 Years		8.2	24.4	67.4	100.0	20.1	31.4
	9 Years	1.3	4.6	28.3	65.8	100.0	20.2	35.1
	10 Years	0.3	9.6	30.1	60.0	100.0	20.1	34.7
	11+ Years	1.3	10.0	30.3	58.4	100.0	19.6	38.0
	Total	0.9	8.8	29.0	61.3	100.0	19.9	36.2
12 Years	8 Years		8.1	25.6	66.3	100.0	20.3	33.2
	9 Years	1.0	4.5	20.6	74.0	100.0	20.9	31.5
	10 Years		8.2	24.3	67.5	100.0	20.4	35.2
	11+ Years	0.7	8.8	25.8	64.6	100.0	20.1	37.8
	Total	0.5	7.6	24.4	67.6	100.0	20.4	35.1
13+ Years	8 Years	1.0	4.0	24.7	70.3	100.0	20.7	31.4
	9 Years		4.7	21.6	73.8	100.0	20.9	28.9
	10 Years		2.9	20.4	76.6	100.0	21.2	26.4
	11+ Years	0.8	5.2	26.2	67.8	100.0	20.5	33.0
	Total	0.5	4.3	23.8	71.3	100.0	20.8	30.7
Mother's Age at Birth of Child	**Age of Child**							
Under 20 Years	8 Years		10.2	32.3	57.5	100.0	19.7	33.5
	9 Years	1.3	3.5	18.2	77.0	100.0	21.1	32.5
	10 Years		5.4	31.2	63.4	100.0	20.5	31.8
	11+ Years	1.0	8.4	27.8	62.8	100.0	20.0	36.8
	Total	0.8	7.6	27.6	64.0	100.0	20.2	35.5
20-24 Years	8 Years	0.4	6.3	22.6	70.7	100.0	20.4	32.0
	9 Years	0.7	5.0	25.2	69.1	100.0	20.5	32.0
	10 Years	0.2	8.9	20.9	70.1	100.0	20.5	34.7
	11+ Years	0.8	11.2	27.8	60.2	100.0	19.8	39.1
	Total	0.5	7.5	24.1	67.9	100.0	20.3	34.3
25-29 Years	8 Years			19.8	80.2	100.0	22.0	18.2

Table 5.14.7 SPPC: Within and Cross-Year Correlations

	SCHOLASTIC COMPETENCE 1990	GLOBAL SELF-WORTH 1990	PIAT 1990			BEHAVIOR PROBLEMS 1990	HOME 1990		PPVT 1990
			Math	Recognition	Comprehension		COGNITIVE STIMULATION	EMOTIONAL SUPPORT	
Scholastic Competence 1990									
All Children	---	36	.33	.27	.25	-.18	.17	.11	
8-9 Years	---	31	.23	.22	.18	-.17	.09	.12	
10 Years and Over	---	40	.39	.30	.30	-.18	.22	.11	.30
Global Self-Worth 1990									
All Children	36	---	.17	.14	.14	-.21	.14	.16	
8-9 Years	31	---	.17	07	.12	-.18	.15	.22	
10 Years and Over	40	---	.17	.17	.14	-.22	.14	.13	.27

	SCHOLASTIC COMPETENCE		GLOBAL SELF-WORTH		PIAT MATH		PIAT READING RECOGNITION		PIAT READING COMPREHENSION	
	1988	1990	1988	1990	1988	1990	1988	1990	1988	1990
Global Self-Worth 1986										
All Children	16	16	.31	.27	.09	.11	.02[a]	.04[a]	.05[a]	.04[a]
8-9 Years	18	17	36	.26	.14	14	.06[a]	.10[a]	.08[a]	.05[a]
10 Years and Over	12[a]	15	22	29	-.00[a]	.05[a]	-.05[a]	-.05[a]	-.00	.02
Scholastic Competence 1986										
All Children	40	29	.18	.20	.18	.20	.13	.18	.16	.14
8-9 Years	39	.26	.23	.20	.13	.10[a]	.10	.10[a]	.10	.06[a]
10 Years and Over	41	.36	.07[a]	.19	.29	.38	.19	.32	.28	.29

Note a = not significant at $p < .05$

Table 5.15.1 PIAT Math: Raw Scores by Child Age and Race/Ethnicity (1990 Sample Cases)

	0-9	10-14	15-19	20-29	30-39	40-49	50+	Valid	Total	% Valid
Age of Child										
5 Years	95	259	96	29	1			480	516	93.0
6 Years	20	136	132	107	23	5		423	453	93.4
7 Years	5	36	79	179	102	23	2	426	456	93.4
8 Years	2	8	22	138	156	90	9	425	460	92.4
9 Years	2	4	9	55	114	140	50	374	398	94.0
10 Years			3	24	68	176	70	341	376	90.7
11+ Years	1	1		24	69	353	380	828	917	90.3
Total	125	444	341	556	533	787	511	3297	3576	92.2

Race of Child	**Age of Child**	0-9	10-14	15-19	20-29	30-39	40-49	50+	Valid	Total	% Valid
Hispanic	5 Years	25	61	8	6				100	112	89.3
	6 Years	10	38	22	17	3			90	100	90.0
	7 Years	3	14	14	40	23	3		97	105	92.4
	8 Years		2	5	49	43	20	2	121	136	89.0
	9 Years	1	2	2	11	31	29	7	83	86	96.5
	10 Years			1	4	18	34	10	67	81	82.7
	11+ Years				7	12	80	69	168	197	85.3
	Total	39	117	52	134	130	166	88	726	817	88.9
Black	5 Years	39	76	26	8	1			150	157	95.5
	6 Years	7	52	48	28	7	2		144	148	97.3
	7 Years	1	16	35	72	29	4		157	163	96.3
	8 Years	1	3	11	54	51	26	2	148	154	96.1
	9 Years	1	2	5	33	36	56	7	140	146	95.9
	10 Years			2	15	37	66	20	140	148	94.6
	11+ Years	1			14	48	191	163	417	438	95.2
	Total	50	149	127	224	209	345	192	1296	1354	95.7
White	5 Years	31	122	62	15				230	247	93.1
	6 Years	3	46	62	62	13	3		189	205	92.2
	7 Years	1	6	30	67	50	16	2	172	188	91.5
	8 Years	1	3	6	35	62	44	5	156	170	91.8
	9 Years			2	11	47	55	36	151	166	91.0
	10 Years				5	13	76	40	134	147	91.2
	11+ Years		1		3	9	82	148	243	282	86.2
	Total	36	178	162	198	194	276	231	1275	1405	90.7

Table 5.15.2 PIAT Math: Standard Scores by Child Age and Race/Ethnicity (1990 Sample Cases)

		1-69	70-84	85-99	100-114	115-129	130+	Valid	Total	% Valid
Age of Child										
5 Years		6	78	158	175	54	8	479	516	92.8
6 Years		8	42	162	169	41	1	423	453	93.4
7 Years		6	33	165	195	25	2	426	458	93.0
8 Years		4	47	181	156	32	4	424	460	92.2
9 Years		12	53	143	118	45	3	374	398	94.0
10 Years		7	55	131	121	24	3	341	377	90.5
11+ Years		36	124	361	247	48	9	825	915	90.2
Total		79	432	1301	1181	269	30	3292	3577	92.0
Race of Child	**Age of Child**									
Hispanic	5 Years		23	33	38	6		100	112	89.3
	6 Years	3	16	37	31	3		90	100	90.0
	7 Years	4	10	37	44	2		97	105	92.4
	8 Years		18	59	35	9		121	136	89.0
	9 Years	4	10	37	24	7	1	83	86	96.5
	10 Years	1	15	29	18	3	1	67	81	82.7
	11+ Years	7	26	76	50	7	2	168	197	85.3
	Total	19	118	308	240	37	4	726	817	88.9
Black	5 Years	5	29	51	47	15	2	149	157	94.9
	6 Years	4	15	62	48	15		144	148	97.3
	7 Years	1	14	75	60	7		157	165	95.2
	8 Years	2	20	69	52	4	1	148	155	95.5
	9 Years	6	32	53	43	6		140	146	95.9
	10 Years	6	31	55	43	5		140	149	94.0
	11+ Years	25	82	187	104	15	2	415	437	95.0
	Total	49	223	552	397	67	5	1293	1357	95.3
White	5 Years	1	26	74	90	33	6	230	247	93.1
	6 Years	1	11	63	90	23	1	189	205	92.2
	7 Years	1	9	53	91	16	2	172	188	91.5
	8 Years	2	9	53	69	19	3	155	169	91.7
	9 Years	2	11	53	51	32	2	151	166	91.0
	10 Years		9	47	60	16	2	134	147	91.2
	11+ Years	4	16	98	93	26	5	242	281	86.1
	Total	11	91	441	544	165	21	1273	1403	90.7

Table 5.15.3 PIAT Math: Percentile Scores by Child Age and Race/Ethnicity (1990 Sample Cases)

		1-19	20-39	40-59	60-79	80-89	90-99	Valid	Total	% Valid
Age of Child										
5 Years		109	106	79	116	39	30	479	516	92.8
6 Years		70	101	100	99	31	22	423	453	93.4
7 Years		58	104	115	109	31	9	426	458	93.0
8 Years		75	103	113	84	37	12	424	460	92.2
9 Years		87	94	67	60	40	26	374	398	94.0
10 Years		83	79	72	70	19	18	341	377	90.5
11+ Years		200	202	226	126	34	37	825	915	90.2
Total		682	789	772	664	231	154	3292	3577	92.0
Race of Child	**Age of Child**									
Hispanic	5 Years	28	23	24	18	4	3	100	112	89.3
	6 Years	24	27	14	21	1	3	90	100	90.0
	7 Years	19	25	20	27	5	1	97	105	92.4
	8 Years	31	36	25	16	8	5	121	136	89.0
	9 Years	18	27	13	14	7	4	83	86	96.5
	10 Years	20	21	10	11	2	3	67	81	82.7
	11+ Years	44	45	43	25	4	7	168	197	85.3
	Total	184	204	149	132	31	26	726	817	88.9
Black	5 Years	44	32	25	29	9	10	149	157	94.9
	6 Years	26	44	31	25	12	6	144	148	97.3
	7 Years	26	47	46	30	7	1	157	165	95.2
	8 Years	29	39	43	26	10	1	148	155	95.5
	9 Years	49	31	27	21	10	2	140	146	95.9
	10 Years	49	33	21	28	7	2	140	149	94.0
	11+ Years	125	106	113	48	13	10	415	437	95.0
	Total	348	332	306	207	68	32	1293	1357	95.3
White	5 Years	37	51	30	69	26	17	230	247	93.1
	6 Years	20	30	55	53	18	13	189	205	92.2
	7 Years	13	32	49	52	19	7	172	188	91.5
	8 Years	15	28	45	42	19	6	155	169	91.7
	9 Years	20	36	27	25	23	20	151	166	91.0
	10 Years	14	25	41	31	10	13	134	147	91.2
	11+ Years	31	51	70	53	17	20	242	281	86.1
	Total	150	253	317	325	132	96	1273	1403	90.7

Table 5.15.4 PIAT Math: Standard Scores by Child Age and Race/Ethnicity (1990 Weighted Distribution)

		1-69	70-84	85-99	100-114	115-129	130+	Total	Mean	Std. Dev.
Age of Child										
5 Years		0.8	13.0	32.7	38.4	12.8	2.4	100.0	100.2	14.1
6 Years		1.1	7.6	34.0	45.1	11.8	0.4	100.0	101.0	11.7
7 Years		0.9	6.3	34.5	49.7	7.7	1.0	100.0	100.8	10.9
8 Years		1.2	7.8	38.7	41.1	9.6	1.5	100.0	99.9	11.9
9 Years		2.3	9.9	36.0	33.5	17.4	1.0	100.0	100.5	14.1
10 Years		1.0	11.1	36.1	41.0	9.5	1.3	100.0	99.9	13.4
11+ Years		3.2	11.3	42.0	34.1	7.9	1.5	100.0	97.6	13.2
Total		1.7	9.8	36.9	39.7	10.6	1.4	100.0	99.7	12.9
Race of Child	**Age of Child**									
Hispanic	5 Years		21.3	33.8	38.5	6.4		100.0	95.1	13.2
	6 Years	2.9	16.5	40.4	37.1	3.1		100.0	94.9	12.3
	7 Years	4.0	12.4	39.3	43.2	1.2		100.0	96.0	12.0
	8 Years		14.4	50.8	28.5	6.3		100.0	95.8	11.4
	9 Years	4.7	9.8	45.6	30.7	8.1	1.1	100.0	96.8	13.4
	10 Years	1.1	20.6	41.9	28.7	4.5	3.2	100.0	95.8	14.3
	11+ Years	4.2	16.1	44.5	30.2	3.8	1.1	100.0	94.7	13.1
	Total	2.6	15.8	43.0	33.1	4.7	0.8	100.0	95.5	12.8
Black	5 Years	3.1	18.7	35.5	31.4	10.4	0.9	100.0	96.1	14.6
	6 Years	2.8	10.5	41.3	34.9	10.4		100.0	97.8	12.4
	7 Years	0.5	8.4	47.5	39.6	4.0		100.0	97.1	9.5
	8 Years	1.3	14.1	47.7	34.5	1.9	0.6	100.0	95.8	11.2
	9 Years	3.6	21.8	39.4	31.6	3.7		100.0	93.6	13.1
	10 Years	4.2	22.5	38.6	31.4	3.4		100.0	93.1	13.4
	11+ Years	5.7	19.6	44.7	25.6	4.0	0.5	100.0	92.9	12.9
	Total	3.6	17.1	42.8	31.1	5.1	0.3	100.0	94.7	12.7
White	5 Years	0.4	11.1	32.1	39.8	13.8	2.9	100.0	101.5	13.8
	6 Years	0.5	5.9	31.6	48.4	13.0	0.6	100.0	102.3	11.1
	7 Years	0.6	5.0	30.4	53.2	9.5	1.3	100.0	102.3	10.7
	8 Years	1.3	5.1	34.2	45.0	12.3	2.0	100.0	101.8	11.8
	9 Years	1.6	6.8	33.9	34.4	22.1	1.2	100.0	102.8	13.7
	10 Years		6.4	34.6	45.4	12.0	1.5	100.0	102.5	12.4
	11+ Years	1.7	6.5	40.3	38.9	10.5	2.1	100.0	100.4	12.7
	Total	1.0	6.9	34.3	43.1	13.0	1.7	100.0	101.8	12.4

Table 5.15.5 PIAT Math: Standard Scores by Maternal Education and Age of Child (1990 Weighted Distribution)

Maternal Education	Age of Child	1-69	70-84	85-99	100-114	115-129	130+	Total	Mean	Std. Dev.
< 12 Years	5 Years	1.1	24.1	39.5	31.3	3.7	0.3	100.0	93.5	12.9
	6 Years	2.4	15.6	39.9	37.5	2.4	2.1	100.0	96.5	12.4
	7 Years	1.1	5.4	47.1	44.8	1.6		100.0	98.0	9.8
	8 Years	3.4	13.6	45.8	29.6	7.6		100.0	96.1	12.8
	9 Years	3.6	16.0	37.8	32.2	10.4		100.0	96.4	13.6
	10 Years	2.8	18.2	42.4	34.4	2.2		100.0	93.8	12.4
	11+ Years	4.4	14.7	47.4	27.8	4.8	0.9	100.0	94.7	12.8
	Total	3.2	15.0	44.2	32.3	4.8	0.6	100.0	95.4	12.6
12 Years	5 Years	1.2	12.7	34.6	37.6	12.2	1.7	100.0	99.5	13.4
	6 Years	1.1	7.6	37.6	43.6	10.0		100.0	100.3	10.9
	7 Years		6.5	33.5	50.8	7.1	2.1	100.0	101.3	10.7
	8 Years	0.5	7.0	41.2	42.7	7.3	1.3	100.0	99.5	10.4
	9 Years	1.3	7.8	39.6	35.5	14.1	1.7	100.0	101.2	13.8
	10 Years		7.3	37.1	44.0	10.4	1.2	100.0	101.7	12.4
	11+ Years	2.5	9.7	37.6	38.6	9.6	2.1	100.0	99.3	13.2
	Total	1.1	8.7	37.2	41.4	10.1	1.5	100.0	100.3	12.3
13+ Years	5 Years		7.3	26.4	43.3	18.5	4.5	100.0	104.8	13.9
	6 Years	0.4	2.3	24.9	52.2	20.3		100.0	104.8	11.1
	7 Years	2.1	6.8	24.2	51.9	15.0		100.0	102.6	11.7
	8 Years		3.4	27.3	49.4	16.4	3.6	100.0	104.6	12.0
	9 Years	2.7	6.2	24.8	30.7	35.1	0.5	100.0	104.8	13.7
	10 Years	0.9	10.1	27.2	41.8	16.8	3.2	100.0	103.6	14.2
	11+ Years	1.5	6.5	36.8	40.8	12.3	2.0	100.0	101.3	13.1
	Total	1.0	5.9	27.7	45.0	18.4	2.1	100.0	103.7	12.9

Table 5.15.6 PIAT Math: Standard Scores by Mother's Age at Birth of Child and Age of Child (1990 Weighted Distribution)

Mother's Age at Birth of Child	Age of Child	1-69	70-84	85-99	100-114	115-129	130+	Total	Mean	Std. Dev.
Under 20 Years	5 Years		18.4	81.6				100.0	84.3	3.5
	6 Years	2.0	4.7	23.8	57.3	12.1		100.0	101.9	11.2
	7 Years	0.4	4.8	48.0	42.7	4.1		100.0	98.7	9.6
	8 Years	4.2	6.2	46.0	37.2	6.1	0.4	100.0	97.5	12.0
	9 Years	1.5	10.7	36.0	41.8	8.8	1.3	100.0	99.5	13.3
	10 Years	1.1	10.8	42.6	33.1	12.5		100.0	99.2	13.1
	11+ Years	3.5	11.7	45.9	30.9	6.4	1.6	100.0	96.7	13.1
	Total	2.8	10.3	44.1	34.3	7.4	1.1	100.0	97.6	12.9
20-24 Years	5 Years	1.2	16.1	30.0	36.9	15.1	0.8	100.0	99.1	13.9
	6 Years	1.2	7.2	38.2	40.0	12.8	0.7	100.0	100.8	12.1
	7 Years	1.2	7.8	32.6	48.3	9.4	0.7	100.0	100.7	11.4
	8 Years	0.2	8.8	37.3	41.2	10.5	2.0	100.0	100.5	11.9
	9 Years	2.6	9.6	36.0	29.9	21.1	0.8	100.0	100.9	14.4
	10 Years	0.9	11.3	31.0	47.2	7.2	2.3	100.0	100.4	13.6
	11+ Years	2.2	10.1	29.5	44.2	12.8	1.2	100.0	100.6	13.1
	Total	1.3	10.1	33.8	40.7	12.9	1.2	100.0	100.4	12.9
25-29 Years	5 Years	0.3	9.2	35.6	40.6	10.1	4.3	100.0	101.6	14.1
	6 Years	0.8	8.8	27.4	53.3	9.6		100.0	101.2	10.9
	7 Years		2.5	28.1	61.1	5.6	2.7	100.0	103.1	9.7
	8 Years		2.4	15.9	65.4	16.4		100.0	106.1	7.8
	Total	0.4	7.7	31.2	48.7	9.4	2.6	100.0	101.9	12.4

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Table 5.15.7 PIAT Math: Percentile Scores by Child Age and Race/Ethnicity (1990 Weighted Distribution)

		1-19	20-39	40-59	60-79	80-89	90-99	Total	Mean	Std. Dev.
Age of Child										
5 Years		18.3	22.6	14.6	27.8	9.9	6.9	100.0	50.6	28.2
6 Years		12.9	18.2	27.1	26.3	8.7	6.9	100.0	52.3	24.4
7 Years		10.0	21.5	27.9	27.8	9.6	3.2	100.0	51.9	23.2
8 Years		13.0	21.2	28.1	24.1	10.4	3.2	100.0	49.9	24.5
9 Years		16.6	24.5	18.2	16.6	13.9	10.2	100.0	51.0	28.5
10 Years		16.9	20.3	25.7	22.7	6.6	7.8	100.0	49.8	26.8
11+ Years		19.0	23.3	27.5	18.7	5.2	6.3	100.0	45.2	25.9
Total		15.7	21.9	24.4	23.1	8.7	6.3	100.0	49.5	26.1
Race of Child	**Age of Child**									
Hispanic	5 Years	25.1	25.2	26.1	15.2	5.8	2.5	100.0	40.6	26.2
	6 Years	24.7	27.6	16.8	27.0	0.8	3.1	100.0	40.2	24.9
	7 Years	21.6	25.7	20.5	26.7	4.8	0.6	100.0	42.8	24.5
	8 Years	26.0	30.9	19.0	13.7	7.0	3.2	100.0	40.8	24.4
	9 Years	19.5	31.9	16.0	18.9	9.4	4.3	100.0	43.7	26.2
	10 Years	28.1	29.8	13.1	20.0	2.2	6.8	100.0	40.8	27.4
	11+ Years	26.6	26.6	23.2	17.0	2.2	4.5	100.0	39.2	25.0
	Total	24.8	28.1	20.0	19.1	4.4	3.6	100.0	40.8	25.4
Black	5 Years	29.0	22.4	16.7	19.4	6.0	6.6	100.0	42.5	28.8
	6 Years	18.3	28.3	22.7	18.2	7.4	5.1	100.0	45.6	25.1
	7 Years	15.0	29.2	31.8	19.1	4.3	0.6	100.0	43.9	21.1
	8 Years	20.5	26.2	29.8	17.1	5.8	0.6	100.0	41.4	23.0
	9 Years	32.9	23.5	19.1	16.1	7.3	1.1	100.0	37.5	26.3
	10 Years	35.0	23.2	15.5	20.6	4.4	1.4	100.0	37.0	26.7
	11+ Years	29.7	25.1	27.5	11.9	3.1	2.7	100.0	36.1	24.3
	Total	26.5	25.4	24.4	16.2	4.9	2.6	100.0	39.6	25.2
White	5 Years	15.6	22.4	13.1	30.5	11.0	7.4	100.0	53.1	27.7
	6 Years	10.3	14.8	29.3	28.1	9.8	7.7	100.0	55.1	23.4
	7 Years	7.4	19.0	27.6	30.4	11.6	4.1	100.0	55.1	22.8
	8 Years	8.9	18.2	29.2	27.7	12.2	4.0	100.0	53.8	23.9
	9 Years	12.0	23.8	18.2	16.5	16.1	13.3	100.0	55.4	28.1
	10 Years	9.8	18.2	30.4	23.7	7.9	10.0	100.0	54.8	25.1
	11+ Years	12.5	21.9	28.3	22.3	6.7	8.4	100.0	50.7	25.3
	Total	11.3	20.0	24.9	25.7	10.4	7.8	100.0	53.7	25.4

Table 5.15.8 PIAT Math: Percentile Scores by Maternal Education and Age of Child (1990 Weighted Distribution)

Maternal Education	Age of Child	1-19	20-39	40-59	60-79	80-89	90-99	Total	Mean	Std. Dev.
< 12 Years	5 Years	33.2	24.6	18.6	19.5	2.5	1.5	100.0	37.5	26.1
	6 Years	22.7	21.7	32.1	16.8	4.1	2.5	100.0	42.7	24.0
	7 Years	9.9	35.4	27.1	18.8	7.2	1.6	100.0	45.7	21.6
	8 Years	21.1	26.9	21.0	20.2	9.0	1.8	100.0	42.6	25.8
	9 Years	28.5	21.4	18.5	17.6	9.3	4.8	100.0	43.0	28.0
	10 Years	26.8	25.1	26.8	16.5	3.7	1.0	100.0	38.2	24.4
	11+ Years	23.0	29.4	25.1	15.9	2.9	3.7	100.0	39.3	24.6
	Total	23.2	27.3	24.3	17.4	5.0	2.8	100.0	40.9	25.0
12 Years	5 Years	17.0	24.1	15.0	28.4	12.0	3.5	100.0	49.4	27.2
	6 Years	11.4	20.4	27.3	26.9	8.4	5.6	100.0	51.0	23.5
	7 Years	9.0	16.7	32.9	30.7	6.9	3.9	100.0	52.7	22.5
	8 Years	12.3	21.6	31.3	25.0	8.1	1.5	100.0	48.9	22.2
	9 Years	12.8	29.6	15.8	18.5	12.1	11.2	100.0	51.8	27.9
	10 Years	13.4	20.6	23.6	27.8	5.6	9.1	100.0	53.2	25.7
	11+ Years	16.7	19.8	29.5	19.3	6.8	7.7	100.0	48.8	26.1
	Total	13.6	21.7	25.2	24.8	8.6	6.1	100.0	50.6	25.3
13+ Years	5 Years	12.1	19.2	11.7	31.3	10.9	14.8	100.0	59.4	27.5
	6 Years	8.7	12.6	23.7	31.4	11.9	11.6	100.0	60.3	23.4
	7 Years	12.0	16.6	19.2	32.2	16.7	3.4	100.0	56.5	24.7
	8 Years	5.8	14.6	30.7	24.7	16.3	7.9	100.0	59.2	23.9
	9 Years	8.9	16.6	23.4	10.7	24.8	15.5	100.0	60.3	27.5
	10 Years	12.0	14.0	27.2	20.8	12.3	13.6	100.0	56.9	27.6
	11+ Years	14.1	14.2	29.8	24.7	7.4	9.8	100.0	52.6	25.8
	Total	10.8	15.5	22.8	26.5	13.4	11.0	100.0	57.8	25.9

Table 5.15.9 PIAT Math: Percentile Scores by Mother's Age at Birth of Child and Age of Child (1990 Weighted Distribution)

Mother's Age at Birth of Child	Age of Child	1-19	20-39	40-59	60-79	80-89	90-99	Total	Mean	Std. Dev.
Under 20 Years	5 Years	100.0						100.0	15.0	4.3
	6 Years	8.8	12.1	34.1	30.6	11.8	2.5	100.0	55.0	23.0
	7 Years	9.3	27.4	34.5	19.7	7.1	2.0	100.0	46.9	21.6
	8 Years	16.5	26.4	26.2	21.6	6.9	2.5	100.0	45.3	24.1
	9 Years	16.9	26.7	18.5	20.4	10.1	7.4	100.0	48.9	27.4
	10 Years	18.4	19.4	30.2	17.5	6.3	8.1	100.0	48.1	26.5
	11+ Years	20.0	26.8	26.2	16.8	4.5	5.6	100.0	43.2	25.5
	Total	18.3	25.4	26.6	18.2	5.9	5.5	100.0	45.1	25.6
20-24 Years	5 Years	22.1	18.9	17.1	25.3	11.7	4.9	100.0	48.9	28.4
	6 Years	14.3	19.9	28.1	19.9	9.6	8.1	100.0	51.4	25.1
	7 Years	11.4	21.9	25.1	26.6	11.5	3.6	100.0	51.8	23.9
	8 Years	12.4	20.5	28.7	23.6	11.4	3.6	100.0	50.8	24.6
	9 Years	16.5	23.5	18.1	15.0	15.5	11.4	100.0	51.8	28.9
	10 Years	15.7	20.9	22.1	26.8	6.9	7.6	100.0	51.1	27.0
	11+ Years	15.6	12.0	32.0	24.7	7.2	8.4	100.0	51.8	26.1
	Total	15.4	19.9	24.3	22.9	10.9	6.7	100.0	51.1	26.3
25-29 Years	5 Years	12.9	27.2	11.6	31.0	7.8	9.5	100.0	53.0	27.7
	6 Years	10.7	15.8	23.7	38.5	6.0	5.2	100.0	53.5	23.0
	7 Years	6.0	14.8	31.1	39.8	5.6	2.7	100.0	56.7	21.1
	8 Years	2.4		31.6	49.7	14.7	1.7	100.0	64.4	16.7
	Total	10.7	20.8	19.2	35.4	7.1	6.8	100.0	54.2	25.1

Table 5.15.10 PIAT Assessments: Within-Year Correlations, 1990

Age of Child	PIAT Math	PIAT Reading Recognition	PIAT Reading Comprehension
PIAT Mathematics			
All Children	---	.58	.56
5-7 Years	---	.46	.43
8-9 Years	---	.63	.57
10-12 Years	---	.58	.58
13 Years and Over	---	.62	.62
PIAT Reading Recognition			
All Children	.58	---	.81
5-7 Years	.46	---	.90
8-9 Years	.63	---	.80
10-12 Years	.58	---	.80
13 Years and Over	.62	---	.71
PIAT Reading Comprehension			
All Children	.56	.81	---
5-7 Years	.43	.90	---
8-9 Years	.57	.80	---
10-12 Years	.58	.80	---
13 Years and Over	.62	.71	---

Table 5.15.11 PIAT Assessments: Correlations with Other Assessments, 1990

	PIAT Mathematics	PIAT Reading Recognition	PIAT Reading Comprehension
SPPC Scholastic Competence	.33	.27	.25
SPPC Global Self-worth	.17	.14	.14
Behavior Problems	-.13	-.16	-.18
HOME (Total)	.29	.30	.31
HOME Cognitive Stimulation	.25	.27	.29
HOME Emotional Support	.21	.20	.18
Digit Span	.39	.45	.38
PPVT	.52	.55	.59

Note: More detailed age breaks for many of these correlations may be found in the correlation tables for the other assessments.

Table 5.15.12 PIAT Assessments: Within and Cross-Year Correlations

	PIAT MATHEMATICS			PIAT READING RECOGNITION			PIAT READING COMPREHENSION		
Age of Child	1986	1988	1990	1986	1988	1990	1986	1988	1990
PIAT Math 1986									
All Children	---	.59	.57	.57	.52	.50	.55	.51	.45
5-7 Years	---	.54	.52	.46	.45	.43	.45	.42	.42
8-9 Years	---	.61	.59	.59	.50	.48	.57	.50	.43
10 Years and Over	---	.65	.63	.63	.61	.59	.60	.59	.49
PIAT Reading Recognition 1986									
All Children	.57	.53	.52	---	.71	.70	.81	.63	.58
5-7 Years	.46	.43	.39	---	.57	.55	.82	.53	.52
8-9 Years	.59	.58	.61	---	.82	.77	.78	.70	.65
10 Years and Over	.63	.60	.60	---	.75	.85	.78	.64	.55
PIAT Reading Comprehension 1986									
All Children	.55	.49	.50	.81	.62	.62	---	.60	.52
5-7 Years	.45	.40	.37	.82	.56	.55	---	.52	.47
8-9 Years	.57	.55	.58	.78	.65	.61	---	.65	.54
10 Years and Over	.60	.53	.56	.78	.59	.72	---	.55	.52

Table 5.16.1 PIAT Reading Recognition: Total Raw Scores by Child Age and Race/Ethnicity (1990 Sample Cases)

Age of Child	0-9	10-14	15-19	20-29	30-39	40-49	50+	Valid	Total	% Valid
5 Years	115	118	210	13	3	1		460	516	89.1
6 Years	18	32	231	103	17	4	5	410	453	90.5
7 Years	1	5	62	214	98	37	9	426	456	93.4
8 Years			9	113	139	112	44	417	460	90.7
9 Years			3	66	93	103	106	371	398	93.2
10 Years				30	65	110	130	335	376	89.1
11+ Years			2	30	93	175	528	828	917	90.3
Total	134	155	517	569	508	542	822	3247	3576	90.8

Race of Child	Age of Child	0-9	10-14	15-19	20-29	30-39	40-49	50+	Valid	Total	% Valid
Hispanic	5 Years	38	30	26	5				99	112	88.4
	6 Years	6	13	46	19	3			87	100	87.0
	7 Years	1	2	14	50	19	9	1	96	105	91.4
	8 Years			6	42	36	23	11	118	136	86.8
	9 Years			3	14	26	21	18	82	86	95.3
	10 Years				5	15	19	26	65	81	80.2
	11+ Years				5	18	38	103	164	197	83.2
	Total	45	45	95	140	117	110	159	711	817	87.0
Black	5 Years	35	32	71	1	2			141	157	89.8
	6 Years	6	8	79	35	5	2	2	137	148	92.6
	7 Years		2	21	88	33	8	2	154	163	94.5
	8 Years			2	43	54	38	9	146	154	94.8
	9 Years				36	37	33	33	139	146	95.2
	10 Years				20	32	49	40	141	148	95.3
	11+ Years				18	55	100	245	418	438	95.4
	Total	41	42	173	241	218	230	331	1276	1354	94.2
White	5 Years	42	56	113	7	1	1		220	247	89.1
	6 Years	6	11	106	49	9	2	3	186	205	90.7
	7 Years		1	27	76	46	20	6	176	188	93.6
	8 Years			1	28	49	51	24	153	170	90.0
	9 Years				16	30	49	55	150	166	90.4
	10 Years				5	18	42	64	129	147	87.8
	11+ Years			2	7	20	37	180	246	282	87.2
	Total	48	68	249	188	173	202	332	1260	1405	89.7

Table 5.16.2 PIAT Reading Recognition: Standard Scores by Child Age and Race/Ethnicity (1990 Sample Cases)

		1-69	70-84	85-99	100-114	115-129	130+	Valid	Total	% Valid
Age of Child										
5 Years		4	45	104	178	120	9	460	517	89.0
6 Years		3	15	187	164	33	8	410	453	90.5
7 Years		1	35	138	188	59	5	426	458	93.0
8 Years		7	27	112	193	73	5	417	461	90.5
9 Years		14	47	96	132	70	12	371	398	93.2
10 Years		6	38	111	117	49	14	335	377	88.9
11+ Years		32	134	268	285	75	31	825	915	90.2
Total		67	341	1016	1257	479	84	3244	3579	90.6
Race of Child	**Age of Child**									
Hispanic	5 Years	4	13	27	36	18	1	99	112	88.4
	6 Years		5	54	24	4		87	100	87.0
	7 Years	1	10	33	38	14		96	105	91.4
	8 Years	4	10	41	45	18		118	136	86.8
	9 Years	4	10	30	26	12		82	86	95.3
	10 Years	1	8	26	22	5	3	65	81	80.2
	11+ Years	6	27	48	61	15	7	164	197	83.2
	Total	20	83	259	252	86	11	711	817	87.0
Black	5 Years		15	32	51	40	3	141	158	89.2
	6 Years	1	6	59	60	8	3	137	148	92.6
	7 Years		13	55	72	13	1	154	165	93.3
	8 Years	3	9	43	72	19		146	155	94.2
	9 Years	7	25	40	41	24	2	139	146	95.2
	10 Years	5	22	55	42	12	5	141	149	94.6
	11+ Years	18	80	163	117	29	9	416	437	95.2
	Total	34	170	447	455	145	23	1274	1358	93.8
White	5 Years		17	45	91	62	5	220	247	89.1
	6 Years	2	4	74	80	21	5	186	205	90.7
	7 Years		12	50	78	32	4	176	188	93.6
	8 Years		8	28	76	36	5	153	170	90.0
	9 Years	3	12	26	65	34	10	150	166	90.4
	10 Years		8	30	53	32	6	129	147	87.8
	11+ Years	8	27	57	107	31	15	245	281	87.2
	Total	13	88	310	550	248	50	1259	1404	89.7

Table 5.16.3 PIAT Reading Recognition: Percentile Scores by Child Age and Race/Ethnicity (1990 Sample Cases)

		1-19	20-39	40-59	60-79	80-89	90-99	Valid	Total	% Valid
Age of Child										
5 Years		57	77	61	101	73	91	460	517	89.0
6 Years		25	116	127	94	18	30	410	453	90.5
7 Years		58	91	93	95	54	35	426	458	93.0
8 Years		50	60	80	125	53	49	417	461	90.5
9 Years		66	70	56	79	48	52	371	398	93.2
10 Years		56	57	83	57	50	32	335	377	88.9
11+ Years		197	168	157	169	66	68	825	915	90.2
Total		509	639	657	720	362	357	3244	3579	90.6
Race of Child	**Age of Child**									
Hispanic	5 Years	21	21	15	20	6	16	99	112	88.4
	6 Years	10	32	24	15	2	4	87	100	87.0
	7 Years	14	24	20	18	14	6	96	105	91.4
	8 Years	17	21	28	30	10	12	118	136	86.8
	9 Years	16	23	10	17	10	6	82	86	95.3
	10 Years	12	15	14	13	5	6	65	81	80.2
	11+ Years	38	29	35	33	15	14	164	197	83.2
	Total	128	165	146	146	62	64	1711	817	87.0
Black	5 Years	17	22	19	31	23	29	141	158	89.2
	6 Years	9	33	47	36	3	9	137	148	92.6
	7 Years	21	37	39	34	14	9	154	165	93.3
	8 Years	19	24	30	45	17	11	146	155	94.2
	9 Years	33	31	20	24	16	15	139	146	95.2
	10 Years	32	29	37	15	19	9	141	149	94.6
	11+ Years	118	106	72	77	21	22	416	437	95.2
	Total	249	282	264	262	113	104	274	1358	93.8
White	5 Years	19	34	27	50	44	46	220	247	89.1
	6 Years	6	51	56	43	13	17	186	205	90.7
	7 Years	23	30	34	43	26	20	176	188	93.6
	8 Years	14	15	22	50	26	26	153	170	90.0
	9 Years	17	16	26	38	22	31	150	166	90.4
	10 Years	12	13	32	29	26	17	129	147	87.8
	11+ Years	41	33	50	59	30	32	245	281	87.2
	Total	132	192	247	312	187	189	1259	1404	[illegible]

Table 5.16.4 PIAT Reading Recognition: Standard Scores by Child Age and Race/Ethnicity (1990 Weighted Distribution)

		1-69	70-84	85-99	100-114	115-129	130+	Total	Mean	Std. Dev.
Age of Child										
5 Years		0.4	8.3	20.5	40.7	28.0	2.2	100.0	106.4	13.4
6 Years		0.9	2.8	40.8	43.5	9.6	2.5	100.0	101.8	11.3
7 Years		0.1	7.1	30.0	44.9	16.4	1.6	100.0	102.6	12.6
8 Years		0.6	6.0	22.1	48.2	20.9	2.3	100.0	105.5	13.2
9 Years		2.6	9.7	20.7	40.1	21.9	5.0	100.0	104.9	15.1
10 Years		0.7	8.8	27.4	37.8	21.1	4.3	100.0	103.8	14.3
11+ Years		3.7	14.5	28.5	37.6	11.0	4.7	100.0	100.1	15.8
Total		1.6	9.0	27.3	41.3	17.5	3.3	100.0	103.1	14.2
Race of Child	**Age of Child**									
Hispanic	5 Years	5.3	14.0	26.3	35.0	18.7	0.7	100.0	99.7	15.9
	6 Years		4.9	59.0	31.1	4.9		100.0	98.3	9.2
	7 Years	1.1	11.3	32.9	40.9	13.8		100.0	99.6	13.1
	8 Years	2.6	8.6	33.7	40.8	14.3		100.0	101.2	13.4
	9 Years	4.5	12.6	37.1	30.5	15.4		100.0	98.5	14.9
	10 Years	1.2	10.9	39.9	35.8	8.8	3.5	100.0	100.3	13.8
	11+ Years	3.6	16.1	26.9	38.0	11.8	3.7	100.0	99.9	15.4
	Total	2.8	11.9	34.7	36.5	12.6	1.4	100.0	99.7	14.1
Black	5 Years		10.1	21.5	36.9	29.3	2.2	100.0	105.6	13.7
	6 Years	0.6	5.0	40.3	45.7	5.9	2.5	100.0	101.1	11.1
	7 Years		7.8	36.2	46.6	8.9	0.6	100.0	100.4	11.2
	8 Years	1.8	6.5	28.8	49.3	13.7		100.0	102.0	12.6
	9 Years	4.4	17.9	28.9	30.1	17.3	1.5	100.0	99.1	15.5
	10 Years	2.8	16.2	40.3	28.9	8.5	3.4	100.0	97.8	14.6
	11+ Years	3.9	19.6	38.7	28.3	7.0	2.4	100.0	95.4	14.8
	Total	2.4	13.7	34.8	35.7	11.4	1.9	100.0	99.0	14.2
White	5 Years		7.4	19.7	42.0	28.5	2.3	100.0	107.1	12.8
	6 Years	1.1	2.0	39.1	44.2	10.9	2.7	100.0	102.3	11.5
	7 Years		6.4	28.0	44.8	18.7	2.1	100.0	103.4	12.8
	8 Years		5.4	18.3	49.1	23.9	3.3	100.0	107.2	13.0
	9 Years	1.9	7.2	16.6	43.9	23.9	6.5	100.0	107.2	14.4
	10 Years		6.1	21.7	40.9	26.6	4.6	100.0	106.2	13.5
	11+ Years	3.6	11.8	23.8	42.1	12.8	5.9	100.0	102.4	15.8
	Total	1.2	7.1	24.1	43.7	19.9	4.0	100.0	104.8	13.8

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Table 5.16.5 PIAT Reading Recognition: Standard Scores by Maternal Education and Age of Child (1990 Weighted Distribution)

Maternal Education	Age of Child	1-69	70-84	85-99	100-114	115-129	130+	Total	Mean	Std. Dev.
< 12 Years	5 Years	1.5	16.2	31.2	35.8	15.4		100.0	99.4	13.0
	6 Years		11.8	51.9	31.2	5.1		100.0	96.8	9.8
	7 Years	0.3	8.2	42.2	32.5	16.7		100.0	99.1	12.2
	8 Years	1.6	10.9	29.7	45.0	12.9		100.0	100.6	13.6
	9 Years	5.8	13.6	28.6	41.4	10.6		100.0	97.5	13.9
	10 Years	1.6	17.2	33.8	26.4	17.3	3.8	100.0	100.1	16.2
	11+ Years	6.6	18.8	32.5	31.2	8.8	2.2	100.0	96.0	16.0
	Total	3.6	15.0	34.7	34.0	11.5	1.2	100.0	97.8	14.5
12 Years	5 Years	0.1	7.9	21.6	43.5	26.2	0.7	100.0	105.9	12.7
	6 Years	1.7	0.2	42.2	46.3	8.1	1.4	100.0	101.6	10.7
	7 Years		5.9	25.9	50.0	17.5	0.7	100.0	103.4	12.0
	8 Years	0.2	5.1	23.4	51.2	16.9	3.1	100.0	105.1	12.7
	9 Years	1.5	9.1	20.5	39.9	23.3	5.6	100.0	106.2	14.6
	10 Years	0.6	6.5	27.4	40.7	20.2	4.6	100.0	104.5	13.3
	11+ Years	1.8	13.2	26.0	38.3	12.4	8.2	100.0	103.2	16.1
	Total	0.9	7.4	26.6	43.9	17.4	3.8	100.0	104.2	13.6
13+ Years	5 Years	0.1	4.5	12.8	39.4	37.7	5.5	100.0	111.1	12.6
	6 Years	0.3	0.5	31.4	47.4	14.8	5.6	100.0	105.4	11.8
	7 Years		8.0	23.5	49.1	14.5	4.8	100.0	104.9	13.3
	8 Years	0.3	2.4	11.7	44.8	37.4	3.4	100.0	111.5	11.5
	9 Years	0.5	5.5	9.9	38.5	35.0	10.6	100.0	112.4	12.9
	10 Years		3.3	20.2	44.5	27.7	4.3	100.0	107.2	12.5
	11+ Years	0.6	7.1	22.8	52.7	13.7	3.1	100.0	103.8	12.0
	Total	0.3	4.5	19.5	45.6	25.0	5.1	100.0	107.7	12.8

Table 5.16.6 PIAT Reading Recognition: Standard Scores by Mother's Age at Birth of Child and Age of Child
(1990 Weighted Distribution)

Mother's Age at Birth of Child	Age of Child	1-69	70-84	85-99	100-114	115-129	130+	Total	Mean	Std. Dev.
Under 20 Years	5 Years		18.4		81.6			100.0	104.0	10.5
	6 Years		1.7	50.2	28.9	19.2		100.0	103.1	11.4
	7 Years		4.6	30.1	54.1	11.2		100.0	102.1	11.5
	8 Years	0.9	13.9	26.2	49.6	8.0	1.4	100.0	100.3	13.4
	9 Years	1.9	14.3	18.4	43.4	17.1	4.9	100.0	102.5	14.8
	10 Years	1.7	9.7	29.5	33.1	20.6	5.5	100.0	103.5	15.0
	11+ Years	3.9	15.1	31.9	33.0	11.2	5.0	100.0	99.5	16.0
	Total	2.8	13.2	29.9	37.1	12.9	4.2	100.0	100.7	15.2
20-24 Years	5 Years	0.2	9.1	20.1	40.2	29.1	1.3	100.0	105.9	13.5
	6 Years	0.7	2.7	41.1	42.2	9.4	3.8	100.0	102.2	11.8
	7 Years	0.1	9.0	29.2	42.6	16.4	2.6	100.0	102.3	13.3
	8 Years	0.6	3.3	21.1	46.7	25.6	2.7	100.0	107.2	12.8
	9 Years	3.0	7.7	21.8	38.6	24.0	5.0	100.0	105.9	15.1
	10 Years		8.1	25.7	41.5	21.4	3.2	100.0	104.1	13.7
	11+ Years	2.9	12.6	17.8	52.5	10.4	3.7	100.0	102.1	15.0
	Total	1.1	7.2	25.6	43.3	19.7	3.2	100.0	104.3	13.7
25-29 Years	5 Years	0.5	7.2	21.1	40.9	26.9	3.3	100.0	107.0	13.1
	6 Years	1.4	3.2	38.3	49.1	8.0		100.0	100.7	10.0
	7 Years		3.0	32.3	43.3	21.5		100.0	103.9	11.1
	8 Years		2.4	12.7	64.6	20.4		100.0	110.0	10.7
	Total	0.7	5.1	27.9	44.6	20.2	1.6	100.0	104.7	12.2

Table 5.16.7 PIAT Reading Recognition: Percentile Scores by Child Age and Race/Ethnicity (1990 Weighted Distribution)

		1-19	20-39	40-59	60-79	80-89	90-99	Total	Mean	Std. Dev.
Age of Child										
5 Years		10.0	15.1	12.3	23.0	18.7	20.9	100.0	62.9	27.3
6 Years		4.4	26.6	31.1	23.7	5.7	8.5	100.0	53.3	22.0
7 Years		12.7	18.8	20.8	23.7	14.4	9.6	100.0	55.3	26.5
8 Years		10.8	11.5	17.2	31.3	14.7	14.6	100.0	61.7	26.4
9 Years		13.7	13.4	16.6	23.6	14.6	18.0	100.0	59.8	28.7
10 Years		12.7	12.9	24.5	20.2	17.8	11.9	100.0	57.6	27.8
11+ Years		21.2	17.4	19.5	21.4	9.8	10.7	100.0	50.3	29.5
Total		13.3	16.8	20.0	23.5	13.1	13.2	100.0	56.4	27.7
Race of Child	**Age of Child**									
Hispanic	5 Years	23.9	20.1	13.2	20.5	5.4	17.1	100.0	49.7	31.0
	6 Years	11.2	33.5	28.6	18.9	2.9	4.9	100.0	45.9	20.6
	7 Years	14.5	26.2	19.0	19.2	16.5	4.6	100.0	50.0	27.4
	8 Years	13.4	17.4	24.0	26.9	9.7	8.7	100.0	53.2	26.7
	9 Years	20.6	25.2	13.4	21.6	11.1	8.2	100.0	47.8	28.8
	10 Years	18.1	22.3	19.9	22.1	7.8	9.8	100.0	50.2	27.7
	11+ Years	21.6	15.6	22.2	20.4	11.9	8.3	100.0	50.1	29.2
	Total	18.1	21.5	20.5	21.4	9.8	8.7	100.0	49.8	27.9
Black	5 Years	12.0	13.7	13.4	22.8	16.7	21.4	100.0	61.6	28.0
	6 Years	6.9	23.2	33.0	27.3	2.8	6.8	100.0	51.9	21.4
	7 Years	11.6	25.2	25.3	23.0	8.9	5.9	100.0	50.5	24.4
	8 Years	12.8	15.9	21.3	31.6	10.1	8.4	100.0	54.9	26.2
	9 Years	22.8	22.2	16.0	16.1	11.8	11.2	100.0	48.7	30.4
	10 Years	22.4	21.9	25.2	11.3	13.0	6.2	100.0	45.3	28.4
	11+ Years	28.5	24.9	17.3	18.9	4.6	5.8	100.0	40.8	28.0
	Total	19.6	22.0	20.6	21.0	8.4	8.4	100.0	48.1	27.9
White	5 Years	8.4	15.0	12.0	23.2	20.3	21.2	100.0	64.4	26.4
	6 Years	3.1	26.7	31.0	23.4	6.6	9.2	100.0	54.3	22.2
	7 Years	12.7	16.3	19.8	24.4	15.7	11.0	100.0	57.1	26.7
	8 Years	9.8	9.3	14.9	31.9	16.8	17.3	100.0	65.0	25.8
	9 Years	10.4	9.7	17.2	25.8	15.8	21.0	100.0	64.3	27.0
	10 Years	8.8	8.8	24.9	22.9	20.5	14.1	100.0	62.5	26.2
	11+ Years	17.5	14.0	20.2	22.8	12.1	13.4	100.0	54.9	29.2
	Total	10.7	14.7	19.8	24.6	15.0	15.2	100.0	59.8	26.9

Table 5.16.8 PIAT Reading Recognition: Percentile Scores by Maternal Education and Age of Child (1990 Weighted Distribution)

Maternal Education	Age of Child	1-19	20-39	40-59	60-79	80-89	90-99	Total	Mean	Std. Dev.
< 12 Years	5 Years	20.3	25.0	14.5	21.0	8.3	10.9	100.0	48.8	28.1
	6 Years	14.0	30.6	35.5	14.8	3.0	2.1	100.0	43.4	21.0
	7 Years	19.9	25.6	20.8	16.2	9.4	8.1	100.0	47.4	26.5
	8 Years	18.3	14.4	24.6	22.7	11.5	8.5	100.0	52.0	27.6
	9 Years	21.9	20.1	21.1	21.1	9.4	6.2	100.0	46.1	27.5
	10 Years	23.8	17.5	17.4	16.4	13.3	11.5	100.0	49.8	31.2
	11+ Years	29.8	19.7	18.7	16.5	7.7	7.6	100.0	42.8	29.7
	Total	23.5	21.1	20.9	17.9	8.7	7.8	100.0	46.0	28.3
12 Years	5 Years	9.7	16.1	11.1	25.9	20.5	16.8	100.0	62.1	26.7
	6 Years	2.2	28.9	28.1	27.3	7.4	6.2	100.0	53.2	21.0
	7 Years	11.0	16.4	20.4	27.5	17.3	7.4	100.0	57.5	25.5
	8 Years	10.2	12.9	16.9	33.0	16.7	10.4	100.0	60.9	25.6
	9 Years	11.8	12.3	15.9	25.2	16.0	18.8	100.0	62.3	27.8
	10 Years	10.4	10.5	27.9	21.5	18.4	11.3	100.0	59.0	26.2
	11+ Years	17.4	16.1	18.1	21.4	11.1	15.9	100.0	55.2	29.8
	Total	10.9	16.4	19.2	25.7	15.0	12.8	100.0	58.3	26.7
13+ Years	5 Years	4.6	8.2	12.8	19.8	22.0	32.6	100.0	72.2	23.8
	6 Years	1.2	20.6	32.8	24.4	4.9	16.1	100.0	59.8	21.8
	7 Years	8.3	14.9	21.9	25.1	14.9	14.9	100.0	60.0	26.3
	8 Years	3.8	6.0	10.0	35.7	14.8	29.6	100.0	73.6	21.8
	9 Years	6.0	6.3	11.6	23.6	18.9	33.4	100.0	74.0	23.4
	10 Years	3.9	12.0	25.3	22.7	22.2	13.9	100.0	64.3	24.6
	11+ Years	8.5	13.3	25.0	33.8	12.4	7.1	100.0	58.4	23.6
	Total	5.2	12.0	20.4	26.4	15.3	20.6	100.0	65.5	24.5

Table 5.16.9 PIAT Reading Recognition: Percentile Scores by Mother's Age at Birth of Child and Age of Child (1990 Weighted Distribution)

Mother's Age at Birth of Child	Age of Child	1-19	20-39	40-59	60-79	80-89	90-99	Total	Mean	Std. Dev.
Under 20 Years	5 Years	18.4			81.6			100.0	60.8	23.6
	6 Years	4.0	33.9	27.4	3.1	17.5	14.2	100.0	55.8	24.1
	7 Years	9.1	23.8	22.6	25.0	12.8	6.8	100.0	54.6	24.8
	8 Years	21.1	12.1	20.5	28.5	14.8	3.0	100.0	51.9	27.7
	9 Years	17.7	13.3	18.6	24.8	12.6	12.9	100.0	55.3	28.7
	10 Years	14.3	14.4	23.1	17.0	18.1	12.9	100.0	56.7	28.8
	11+ Years	22.2	19.5	21.3	16.1	9.9	11.0	100.0	48.7	29.7
	Total	19.2	18.1	21.3	18.8	12.1	10.5	100.0	51.3	29.0
20-24 Years	5 Years	10.4	15.3	13.1	23.6	16.8	20.9	100.0	61.9	27.6
	6 Years	3.9	27.2	29.7	23.8	5.8	9.5	100.0	53.7	22.6
	7 Years	15.5	17.1	19.4	24.6	12.0	11.4	100.0	54.6	27.4
	8 Years	7.4	11.2	16.9	30.4	15.5	18.6	100.0	64.8	25.3
	9 Years	11.9	13.5	15.7	23.1	15.5	20.3	100.0	61.9	28.5
	10 Years	11.4	11.6	25.7	22.7	17.5	11.1	100.0	58.3	27.1
	11+ Years	18.0	10.9	14.0	38.1	9.6	9.5	100.0	55.4	28.4
	Total	10.9	15.6	19.1	26.4	13.1	14.8	100.0	58.8	27.0
25-29 Years	5 Years	9.4	15.1	11.5	21.5	21.3	21.2	100.0	64.2	26.8
	6 Years	5.5	23.9	34.9	27.7	2.9	5.1	100.0	51.7	20.2
	7 Years	6.6	19.5	24.1	19.5	24.4	5.9	100.0	58.4	24.8
	8 Years	2.4	12.7		64.5		20.4	100.0	71.3	20.3
	Total	7.5	18.4	20.2	24.5	15.8	13.7	100.0	59.8	25.2

Table 5.17.1 PIAT Reading Comprehension: Total Raw Scores by Child Age and Race/Ethnicity (1990 Sample Cases)

		0-9	10-14	15-19	20-29	30-39	40-49	50+	Valid	Total	% Valid
Age of Child											
5 Years		115	118	215	7	1	1		457	516	88.6
6 Years		18	32	267	56	10	9	2	394	453	87.0
7 Years		1	5	103	192	71	34	3	409	456	89.7
8 Years				16	137	105	125	25	408	460	88.7
9 Years				12	74	85	134	61	366	398	92.0
10 Years				4	44	66	134	88	336	376	89.4
11+ Years				5	57	87	256	411	816	917	89.0
Total		134	155	622	567	425	693	590	3186	3576	89.1
Race of Child	**Age of Child**										
Hispanic	5 Years	38	30	29	2				99	112	88.4
	6 Years	6	13	58	6		1		84	100	84.0
	7 Years	1	2	26	37	17	6	2	91	105	86.7
	8 Years			6	48	30	25	6	115	136	84.6
	9 Years			6	21	20	26	9	82	86	95.3
	10 Years			1	6	20	21	19	67	81	82.7
	11+ Years				8	16	49	87	160	197	81.2
	Total	45	45	126	128	103	128	123	698	817	85.4
Black	5 Years	35	32	69	2	1			139	157	88.5
	6 Years	6	8	93	17	4	3	1	132	148	89.2
	7 Years		2	39	76	24	7		148	163	90.8
	8 Years			6	58	37	38	5	144	154	93.5
	9 Years			5	36	35	40	18	134	146	91.8
	10 Years			2	28	29	55	24	138	148	93.2
	11+ Years			1	42	49	155	167	414	438	94.5
	Total	41	42	215	259	179	298	215	1249	1354	92.2
White	5 Years	42	56	117	3		1		219	247	88.7
	6 Years	6	11	116	33	6	5	1	178	205	86.8
	7 Years		1	38	79	30	21	1	170	188	90.4
	8 Years			4	31	38	62	14	149	170	87.6
	9 Years			1	17	30	68	34	150	166	90.4
	10 Years			1	10	17	58	45	131	147	89.1
	11+ Years			4	7	22	52	157	242	282	85.8
	Total	48	68	281	180	143	267	252	1239	1405	88.2

Table 5.17.2 PIAT Reading Comprehension: Standard Scores by Child Age and Race/Ethnicity (1990 Sample Cases)

		1-69	70-84	85-99	100-114		115-129	130+	Valid	Total	% Valid
Age of Child											
5 Years					42		54	4	100	160	62.5
6 Years				91	126		23	11	251	310	81.0
7 Years			33	129	171		54	2	389	438	88.8
8 Years		2	39	115	155		86	9	406	459	88.5
9 Years		20	37	111	134		57	7	366	398	92.0
10 Years		11	49	110	113		50	3	336	377	89.1
11+ Years		41	152	304	248		61	7	813	915	88.9
Total		74	310	860	989		385	43	2661	3057	87.0
Race of Child	**Age of Child**										
Hispanic	5 Years				4		12		16	29	55.2
	6 Years			21	18		1	1	41	57	71.9
	7 Years		9	33	27		11	2	82	96	85.4
	8 Years	2	14	34	48		15	2	115	136	84.6
	9 Years	9	10	27	26		9	1	82	86	95.3
	10 Years	2	9	23	22		10	1	67	81	82.7
	11+ Years	4	27	59	56		11	3	160	197	81.2
	Total	17	69	197	201		69	10	563	682	82.6
Black	5 Years				12		17	1	30	49	61.2
	6 Years			34	42		8	4	88	104	84.6
	7 Years		13	53	63		14		143	160	89.4
	8 Years		16	50	49		28		143	154	92.9
	9 Years	8	18	48	42		15	3	134	146	91.8
	10 Years	8	29	45	41		14	1	138	149	92.6
	11+ Years	28	97	177	83		25	2	412	437	94.3
	Total	44	173	407	332		121	11	1088	1199	90.7
White	5 Years				26	25	3	28	54	82	65.9
	6 Years			36	66	14	6	27	122	149	81.9
	7 Years		11	43	81	29		18	164	182	90.1
	8 Years		9	31	58	43	7	21	148	169	87.6
	9 Years	3	9	36	66	33	3	16	150	166	90.4
	10 Years	1	11	42	50	26	1	16	131	147	89.1
	11+ Years	9	28	68	109	25	2	40	241	281	85.8
	Total	13	68	256	456	195	22	166	1010	1176	85.9

Table 5.17.3 PIAT Reading Comprehension: Percentile Scores by Child Age and Race/Ethnicity (1990 Sample Cases)

		1-19	20-39	40-59	60-79	80-89	90-99	Valid	Total	% Valid
Age of Child										
5 Years					9	35	56	100	160	62.5
6 Years			50	77	81	17	26	251	310	81.0
7 Years		33	100	77	100	45	34	389	438	88.8
8 Years		54	67	72	93	60	60	406	459	88.5
9 Years		70	57	84	69	44	42	366	398	92.0
10 Years		70	75	57	77	21	36	336	377	89.1
11+ Years		236	193	132	166	45	41	813	915	88.9
Total		463	542	499	595	267	295	2661	3057	87.0
Race of Child	**Age of Child**									
Hispanic	5 Years				2	2	12	16	29	55.2
	6 Years		15	10	13	2	1	41	57	71.9
	7 Years	9	24	13	16	13	7	82	96	85.4
	8 Years	22	18	24	29	10	12	115	136	84.6
	9 Years	21	15	20	14	7	5	82	86	95.3
	10 Years	12	20	8	16	6	5	67	81	82.7
	11+ Years	37	38	30	38	11	6	160	197	81.2
	Total	101	130	105	128	51	48	563	682	82.6
Black	5 Years				2	11	17	30	49	61.2
	6 Years		16	31	27	4	10	88	104	84.6
	7 Years	13	38	34	38	12	8	143	160	89.4
	8 Years	20	28	32	29	18	16	143	154	92.9
	9 Years	32	25	34	20	12	11	134	146	91.8
	10 Years	42	30	26	24	7	9	138	149	92.6
	11+ Years	153	112	64	52	14	17	412	437	94.3
	Total	260	249	221	192	78	88	1088	1199	90.7
White	5 Years				5	22	27	54	82	65.9
	6 Years		19	36	41	11	15	122	149	81.9
	7 Years	11	38	30	46	20	19	164	182	90.1
	8 Years	12	21	16	35	32	32	148	169	87.6
	9 Years	17	17	30	35	25	26	150	166	90.4
	10 Years	16	25	23	37	8	22	131	147	89.1
	11+ Years	46	43	38	76	20	18	241	281	85.8
	Total	102	163	173	275	138	159	1010	1176	85.9

Table 5.17.4 PIAT Reading Comprehension: Standard Scores by Child Age and Race/Ethnicity (1990 Weighted Distribution)

		1-69	70-84	85-99	110-114	115-129	130+	Total	Mean	Std. Dev.
Age of Child										
5 Years					46.1	49.0	4.8	100.0	119.1	6.7
6 Years				32.1	52.6	10.4	4.9	100.0	106.0	10.1
7 Years			6.8	29.6	46.6	16.8	0.2	100.0	103.2	11.7
8 Years		0.1	7.8	24.8	37.8	26.0	3.4	100.0	105.8	14.1
9 Years		3.3	7.4	26.0	42.2	19.2	1.9	100.0	103.5	14.7
10 Years		2.1	11.1	31.2	36.5	18.4	0.7	100.0	101.2	14.2
11+ Years		4.9	15.4	33.6	36.4	9.0	0.8	100.0	97.0	14.5
Total		2.2	9.2	28.8	41.0	17.0	1.8	100.0	102.4	14.3
Race of Child	**Age of Child**									
Hispanic	5 Years				27.4	72.6		100.0	120.1	5.7
	6 Years			45.3	50.9	1.7	2.1	100.0	102.5	7.4
	7 Years		8.2	40.0	34.2	15.1	2.5	100.0	102.7	12.2
	8 Years	1.3	11.7	29.9	42.3	13.3	1.5	100.0	100.9	13.6
	9 Years	9.9	10.5	33.1	33.7	11.6	1.1	100.0	97.4	15.5
	10 Years	2.2	14.9	29.8	33.3	18.5	1.2	100.0	99.6	14.8
	11+ Years	2.4	14.8	37.5	35.5	8.1	1.8	100.0	97.5	13.4
	Total	2.7	11.4	34.4	37.0	12.8	1.6	100.0	99.9	13.9
Black	5 Years				39.0	58.2	2.7	100.0	119.4	6.1
	6 Years			37.4	48.1	9.7	4.7	100.0	105.4	10.0
	7 Years		8.3	40.5	40.8	10.5		100.0	100.5	10.5
	8 Years		10.4	34.9	34.4	20.3		100.0	102.1	13.3
	9 Years	5.8	11.7	36.5	33.3	10.6	2.1	100.0	98.1	15.0
	10 Years	6.4	20.3	32.7	30.2	9.6	0.9	100.0	95.3	14.9
	11+ Years	6.9	23.0	43.5	19.3	6.8	0.5	100.0	91.8	14.2
	Total	4.2	15.5	38.3	29.6	11.3	1.0	100.0	97.1	14.7
White	5 Years				48.4	46.1	5.5	100.0	119.0	6.9
	6 Years			29.9	53.7	11.3	5.2	100.0	106.4	10.2
	7 Years		6.2	25.8	49.3	18.6		100.0	103.9	11.8
	8 Years		6.4	21.2	38.0	29.8	4.6	100.0	107.7	14.0
	9 Years	1.9	5.9	22.4	45.5	22.3	2.0	100.0	105.6	14.0
	10 Years	0.7	7.7	30.9	38.9	21.2	0.6	100.0	103.3	13.3
	11+ Years	4.3	11.7	28.2	44.9	10.3	0.7	100.0	99.5	14.2
	Total	1.5	6.8	25.1	45.1	19.3	2.1	100.0	104.5	13.7

Table 5.17.5 PIAT Reading Comprehension: Standard Scores by Maternal Education and Age of Child (1990 Weighted Distribution)

Maternal Education	Age of Child	1-69	70-84	85-99	100-114	115-129	130+	Total	Mean	Std. Dev.
< 12 Years	5 Years				54.1	45.9		100.0	114.9	5.5
	6 Years			45.3	51.0	3.7		100.0	102.9	6.9
	7 Years		13.1	34.6	38.7	13.7		100.0	99.8	11.9
	8 Years		16.4	31.0	36.9	15.1	0.6	100.0	100.3	14.1
	9 Years	6.8	9.1	34.8	31.0	18.3		100.0	99.1	15.8
	10 Years	1.2	17.5	38.4	29.7	12.8	0.4	100.0	97.9	14.6
	11+ Years	8.5	20.6	38.2	28.3	4.3	0.1	100.0	92.5	14.3
	Total	4.8	16.0	36.4	32.5	10.1	0.2	100.0	96.6	14.5
12 Years	5 Years				51.7	45.4	2.8	100.0	118.2	6.6
	6 Years			34.9	54.6	9.3	1.2	100.0	104.8	8.8
	7 Years		4.4	29.4	50.8	15.0	0.4	100.0	103.8	11.3
	8 Years		5.5	28.9	35.6	26.2	3.9	100.0	105.7	13.8
	9 Years	2.5	7.7	24.7	46.8	16.2	2.1	100.0	103.7	13.9
	10 Years	2.5	10.3	28.6	40.8	17.0	0.9	100.0	101.4	13.6
	11+ Years	2.6	13.5	30.8	41.6	10.3	1.1	100.0	99.3	13.9
	Total	1.4	7.5	28.1	44.8	16.7	1.6	100.0	103.4	13.4
13+ Years	5 Years				38.3	53.8	8.0	100.0	120.9	6.5
	6 Years			22.9	50.3	14.7	12.1	100.0	108.9	11.9
	7 Years		4.6	24.3	48.1	23.0		100.0	105.4	11.4
	8 Years	0.6	3.2	9.4	43.6	38.0	5.4	100.0	111.8	12.4
	9 Years		4.0	15.9	47.9	27.8	4.4	100.0	109.6	12.6
	10 Years	2.5	5.0	26.4	36.9	28.4	0.9	100.0	105.1	13.8
	11+ Years	1.1	6.8	29.0	43.3	18.1	1.7	100.0	103.2	12.9
	Total	0.6	3.8	20.3	44.6	26.5	4.2	100.0	108.0	13.0

Table 5.17.6 PIAT Reading Comprehension: Standard Scores by Mother's Age at Birth of Child and Age of Child (1990 Weighted Distribution)

Mother's Age at Birth of Child	**Age of Child**	**1-69**	**70-84**	**85-99**	**100-114**	**115-129**	**130+**	**Total**	**Mean**	**Std. Dev.**
Under 20 Years	6 Years			37.3	42.1	20.6		100.0	106.9	11.1
	7 Years		6.6	30.7	50.7	11.0	0.9	100.0	102.4	11.1
	8 Years		13.4	28.0	43.4	13.7	1.5	100.0	101.8	13.9
	9 Years	3.0	7.8	31.6	41.2	14.7	1.7	100.0	102.0	14.7
	10 Years	3.4	9.8	31.9	36.3	17.0	1.6	100.0	101.1	14.5
	11+ Years	5.0	16.4	37.0	33.6	7.4	0.6	100.0	96.0	14.0
	Total	3.7	13.4	34.5	36.9	10.5	1.0	100.0	98.5	14.3
20-24 Years	5 Years				40.5	53.8	5.6	100.0	119.3	7.0
	6 Years			29.2	53.3	12.1	5.4	100.0	106.9	10.4
	7 Years		7.9	28.8	46.0	17.3		100.0	103.0	11.7
	8 Years	0.2	6.1	24.9	36.3	29.0	3.5	100.0	106.7	13.9
	9 Years	3.4	7.2	23.5	42.7	21.2	2.1	100.0	104.2	14.7
	10 Years	1.1	12.1	30.7	36.6	19.6		100.0	101.3	13.9
	11+ Years	4.5	12.1	22.9	45.2	14.0	1.2	100.0	100.3	15.6
	Total	1.5	7.2	25.2	42.8	21.2	2.2	100.0	104.6	13.9
25-29 Years	5 Years				53.4	42.8	3.8	100.0	118.8	6.3
	6 Years			36.6	53.4	5.0	5.0	100.0	104.0	8.8
	7 Years		3.1	31.3	45.0	20.6		100.0	104.4	11.8
	8 Years		2.4	5.1	29.3	50.2	12.9	100.0	115.2	12.8
	Total		1.2	24.6	48.9	21.6	3.6	100.0	108.2	11.6

Table 5.17.7 PIAT Reading Comprehension: Percentile Scores by Child Age and Race/Ethnicity (1990 Weighted Distribution)

		1-19	20-39	40-59	60-79	80-89	90-99	Total	Mean	Std. Dev.
Age of Child										
5 Years					8.6	39.8	51.6	100.0	87.5	8.5
6 Years			17.2	30.6	32.2	8.4	11.6	100.0	62.3	19.0
7 Years		6.8	24.3	19.3	26.8	12.4	10.5	100.0	56.5	25.2
8 Years		10.3	15.7	14.1	22.7	18.7	18.4	100.0	61.6	28.2
9 Years		14.1	12.6	22.3	21.9	14.8	14.3	100.0	57.9	28.2
10 Years		16.2	19.7	17.0	26.1	6.9	14.1	100.0	53.1	28.4
11+ Years		25.0	20.5	17.1	24.6	6.7	6.1	100.0	45.0	28.1
Total		14.0	18.0	18.3	24.6	12.0	13.1	100.0	55.4	28.0
Race of Child	**Age of Child**									
Hispanic	5 Years				13.4	14.1	72.6	100.0	89.3	8.0
	6 Years		31.2	26.5	34.2	6.0	2.1	100.0	55.8	16.3
	7 Years	8.2	28.2	16.9	19.7	18.1	8.9	100.0	54.9	25.5
	8 Years	17.4	15.2	20.1	28.0	10.1	9.2	100.0	52.2	27.6
	9 Years	22.5	18.4	25.6	19.6	8.6	5.3	100.0	46.3	28.7
	10 Years	18.3	26.2	12.0	23.8	11.5	8.2	100.0	49.5	30.0
	11+ Years	20.3	22.4	23.6	22.5	7.7	3.5	100.0	45.2	26.4
	Total	16.5	21.6	20.7	23.5	10.0	7.6	100.0	50.2	27.5
Black	5 Years				5.6	39.5	54.8	100.0	88.3	7.6
	6 Years		17.5	35.8	30.0	4.2	12.5	100.0	60.7	18.7
	7 Years	8.3	28.0	24.7	24.9	8.0	6.2	100.0	50.7	23.6
	8 Years	12.8	21.3	21.1	20.0	12.7	12.0	100.0	54.1	27.7
	9 Years	21.9	18.2	27.4	16.1	9.7	6.6	100.0	47.1	28.4
	10 Years	30.8	21.6	18.6	17.8	4.4	6.8	100.0	41.4	28.4
	11+ Years	36.7	26.7	16.4	11.9	3.5	4.7	100.0	34.3	26.7
	Total	23.9	23.2	20.7	17.0	7.0	8.2	100.0	44.6	28.4
White	5 Years				8.9	41.3	49.8	100.0	87.3	8.6
	6 Years		16.1	29.7	32.6	9.6	12.1	100.0	63.1	19.2
	7 Years	6.2	23.0	18.1	27.9	13.1	11.8	100.0	58.2	25.3
	8 Years	8.5	14.2	11.1	22.7	21.8	21.7	100.0	65.2	27.6
	9 Years	11.1	10.5	20.5	23.7	16.8	17.4	100.0	62.1	27.0
	10 Years	11.3	18.4	17.2	29.0	7.1	17.1	100.0	57.3	27.1
	11+ Years	19.9	17.1	16.4	31.3	8.2	7.2	100.0	50.3	27.6
	Total	10.5	15.8	17.3	27.2	13.8	15.4	100.0	59.5	26.9

Table 5.17.8 PIAT Reading Comprehension: Percentile Scores by Maternal Education and Age of Child (1990 Weighted Distribution)

Maternal Education	Age of Child	1-19	20-39	40-59	60-79	80-89	90-99	Total	Mean	Std. Dev.
< 12 Years	5 Years				25.4	50.2	24.3	100.0	82.3	9.3
	6 Years		19.9	36.8	25.0	18.3		100.0	56.8	16.4
	7 Years	13.1	28.8	18.0	20.6	14.0	5.5	100.0	49.2	26.3
	8 Years	18.8	21.1	15.6	20.8	14.7	9.0	100.0	50.8	29.2
	9 Years	23.1	14.7	22.4	20.0	8.0	11.8	100.0	49.6	30.1
	10 Years	23.7	24.6	12.4	26.0	1.9	11.2	100.0	46.0	29.5
	11+ Years	33.4	24.0	16.5	19.9	4.1	2.2	100.0	36.7	26.7
	Total	24.6	22.7	17.7	21.1	8.0	5.9	100.0	44.3	28.3
12 Years	5 Years				12.3	41.2	46.6	100.0	86.3	9.1
	6 Years		18.0	34.0	34.1	4.0	10.0	100.0	60.4	17.8
	7 Years	4.4	24.5	17.3	29.7	12.9	11.1	100.0	58.1	24.6
	8 Years	8.9	18.3	14.2	22.5	18.0	18.0	100.0	61.3	27.8
	9 Years	12.7	14.0	19.1	26.2	16.4	11.6	100.0	58.3	27.1
	10 Years	14.7	17.0	22.2	24.2	10.8	11.0	100.0	53.7	27.1
	11+ Years	21.6	18.4	17.0	27.3	7.0	8.7	100.0	48.8	27.8
	Total	11.5	17.5	18.7	26.5	12.7	13.1	100.0	57.2	26.8
13+ Years	5 Years				1.8	36.5	61.7	100.0	89.8	6.8
	6 Years		15.1	23.2	32.3	11.0	18.3	100.0	67.1	20.6
	7 Years	4.6	20.0	22.8	28.1	10.2	14.4	100.0	61.0	23.6
	8 Years	4.2	5.8	10.3	25.7	24.7	29.4	100.0	73.9	22.5
	9 Years	4.0	6.2	29.7	14.5	21.0	24.7	100.0	69.5	23.2
	10 Years	10.1	17.5	12.8	30.3	5.3	23.9	100.0	61.0	27.3
	11+ Years	12.1	16.5	17.1	31.0	13.0	10.3	100.0	56.9	26.4
	Total	5.7	12.9	17.6	25.7	15.8	22.3	100.0	66.1	24.9

Table 5.17.9 PIAT Reading Comprehension: Percentile Scores by Mother's Age at Birth of Child and Age of Child (1990 Weighted Distribution)

Mother's Age at Birth of Child	Age of Child	1-19	20-39	40-59	60-79	80-89	90-99	Total	Mean	Std. Dev.
Under 20 Years	6 Years		25.9	25.9	14.8	15.4	18.0	100.0	63.8	21.9
	7 Years	6.6	26.2	19.2	28.3	11.5	8.2	100.0	54.7	24.1
	8 Years	14.3	17.1	18.6	26.4	14.9	8.7	100.0	54.4	27.9
	9 Years	16.9	16.0	15.5	26.4	14.7	10.6	100.0	54.7	28.8
	10 Years	16.3	18.2	17.8	28.7	3.7	15.3	100.0	52.9	28.4
	11+ Years	26.2	23.3	16.9	23.3	5.2	5.1	100.0	42.7	27.2
	Total	21.1	21.5	17.3	24.8	7.5	7.8	100.0	47.6	28.0
20-24 Years	5 Years				12.5	32.1	55.4	100.0	87.6	9.2
	6 Years		16.2	25.7	35.6	9.6	12.9	100.0	64.0	19.4
	7 Years	7.9	22.4	19.7	27.4	13.0	9.6	100.0	56.4	25.5
	8 Years	9.4	15.8	13.2	21.2	20.1	20.2	100.0	63.2	27.9
	9 Years	12.8	11.1	25.3	20.0	14.8	16.0	100.0	59.4	27.9
	10 Years	16.0	20.9	16.5	24.0	9.4	13.2	100.0	53.2	28.5
	11+ Years	21.0	11.4	17.7	29.0	11.7	9.2	100.0	52.3	29.6
	Total	10.7	15.5	18.6	24.9	14.5	15.8	100.0	59.6	27.4
25-29 Years	5 Years				3.7	49.6	46.6	100.0	87.4	7.4
	6 Years		17.4	41.1	29.3	4.6	7.6	100.0	58.5	17.1
	7 Years	3.1	28.9	18.1	23.2	11.3	15.5	100.0	58.4	25.2
	8 Years	2.4	5.1	2.0	27.3	16.8	46.4	100.0	78.8	21.6
	Total	1.2	16.6	21.7	21.5	17.6	21.5	100.0	66.2	22.8

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Table 5.18.1 PPVT: Total Raw Scores by Child Age and Race/Ethnicity (1990 Sample Cases)

		0	1-19	20-39	40-59	60-79	80-89	90-99	100+	Valid	Total	% Valid
Age of Child												
4 Years		1	75	137	145	29	6	2		395	444	89.0
10-11 Years				1	6	45	67	98	334	551	631	87.3
Total		1	75	138	151	74	73	100	334	946	1075	88.0
Race of Child	**Age of Child**											
Hispanic	4 Years		23	36	24	2	1			86	104	82.7
	10-11 Years			1	2	15	17	24	63	122	145	84.1
	Total		23	37	26	17	18	24	63	208	249	83.5
Black	4 Years		45	57	19	2				123	131	93.9
	10-11 Years				4	27	40	55	106	232	259	89.6
	Total		45	57	23	29	40	55	106	355	390	91.0
White	4 Years	1	7	44	102	25	5	2		186	209	89.0
	10-11 Years					3	10	19	165	197	227	86.8
	Total	1	7	44	102	28	15	21	165	383	436	87.8

Table 5.18.2 PPVT: Standard Scores by Child Age and Race/Ethnicity (1990 Sample Cases)

		0	1-69	70-84	85-99	100-114	115-129	130+	Valid	Total	% Valid
Age of Child											
4 Years		1	96	80	116	77	16	9	395	444	89.0
10-11 Years			81	123	221	120	19	5	569	649	87.7
Total		1	177	203	337	197	35	14	964	1093	88.2
Race of Child	**Age of Child**										
Hispanic	4 Years		29	20	24	10	2	1	86	104	82.7
	10-11 Years		21	31	47	23	1	1	124	147	84.4
	Total		50	51	71	33	3	2	210	251	83.7
Black	4 Years		56	41	20	6			123	131	93.9
	10-11 Years		54	70	77	30	2	1	234	261	89.7
	Total		110	111	97	36	2	1	357	392	91.1
White	4 Years	1	11	19	72	61	14	8	186	209	89.0
	10-11 Years		6	22	97	67	16	3	211	241	87.6
	Total	1	17	41	169	128	30	11	397	450	88.2

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Table 5.18.3 PPVT: Percentile Scores by Child Age and Race/Ethnicity (1990 Sample Cases)

		0	1-69	70-84	85-99	Valid	Total	% Valid
Age of Child								
4 Years		57	291	27	20	395	444	89.0
10-11 Years		36	476	35	22	569	649	87.7
Total		93	767	62	42	964	1093	88.2
Race of Child	**Age of Child**							
Hispanic	4 Years	16	64	3	3	86	104	82.7
	10-11 Years	10	106	6	2	124	147	84.4
	Total	26	170	9	5	210	251	83.7
Black	4 Years	35	86	2		123	131	93.9
	10-11 Years	24	201	6	3	234	261	89.7
	Total	59	287	8	3	357	392	91.1
White	4 Years	6	141	22	17	186	209	89.0
	10-11 Years	2	169	23	17	211	241	87.6
	Total	8	310	45	34	397	450	88.2

Table 5.18.4 PPVT: Standard Scores by Child Age and Race/Ethnicity (1990 Weighted Distribution)

		0	1-69	70-84	85-99	100-114	115-129	130+	Total	Mean	Std. Dev.
Age of Child											
4 Years		0.0	13.9	15.2	34.0	27.5	5.9	3.5	100.0	91.8	20.1
10-11 Years			7.9	15.9	42.6	26.6	5.7	1.3	100.0	93.1	16.0
Total		0.0	10.5	15.6	38.9	27.0	5.8	2.3	100.0	92.5	17.9
Race of Child	**Age of Child**										
Hispanic	4 Years		33.4	21.3	27.6	13.4	3.2	1.2	100.0	79.0	22.8
	10-11 Years		16.1	22.1	38.2	20.8	1.0	1.7	100.0	86.3	18.4
	Total		22.4	21.8	34.3	18.1	1.8	1.5	100.0	83.6	20.4
Black	4 Years		44.5	33.0	17.3	5.2			100.0	71.0	17.2
	10-11 Years		22.0	29.9	33.5	13.2	0.9	0.5	100.0	81.9	16.6
	Total		30.0	31.0	27.8	10.4	0.6	0.3	100.0	78.0	17.6
White	4 Years	0.0	5.5	10.9	38.2	33.6	7.4	4.5	100.0	97.5	16.6
	10-11 Years		2.3	10.5	46.1	31.7	7.9	1.5	100.0	97.6	13.2
	Total	0.0	3.8	10.7	42.5	32.5	7.7	2.9	100.0	97.5	14.8

Table 5.18.5 PPVT: Percentile Scores by Child Age and Race/Ethnicity (1990 Weighted Distribution)

		0	1-9	10-19	20-29	30-39	40-49	50-59	60-69	70-79	80-89	90-99	Mean	Std. Dev.
Age of Child														
4 Years		7.8	15.6	9.9	7.2	15.8	6.7	9.8	9.9	7.1	4.3	5.8	38.3	29.1
10-11 Years		3.5	14.5	11.7	10.1	17.6	9.0	8.7	10.3	7.1	2.2	5.2	38.3	26.8
Total		5.3	15.0	11.0	8.9	16.8	8.0	9.2	10.2	7.1	3.1	5.5	38.3	27.8
Race of Child	**Age of Child**													
Hispanic	4 Years	17.9	26.7	10.5	8.6	10.9	5.3	3.3	9.3	3.2	3.2	1.2	24.5	26.7
	10-11 Years	7.7	22.3	14.5	12.2	12.7	7.0	10.9	6.4	3.4		2.7	28.6	24.8
	Total	11.5	23.9	13.1	10.9	12.0	6.4	8.1	7.5	3.4	1.2	2.2	27.1	25.6
Black	4 Years	28.1	42.2	13.5	5.3	4.2	1.6	3.0		2.2			10.2	16.0
	10-11 Years	9.8	33.5	14.9	11.1	9.7	6.4	8.2	2.5	2.5	0.4	0.9	21.3	21.9
	Total	16.3	36.6	14.4	9.0	7.8	4.7	6.3	1.6	2.4	0.3	0.6	17.4	20.7
White	4 Years	2.5	8.9	9.1	7.5	18.7	7.9	11.9	12.1	8.5	5.4	7.5	45.6	27.3
	10-11 Years	0.9	7.3	10.4	9.5	20.8	10.1	8.6	13.4	9.1	3.1	6.9	45.2	25.6
	Total	1.6	8.0	9.8	8.6	19.8	9.1	10.1	12.8	8.9	4.1	7.2	45.3	26.4

Table 5.18.6 PPVT: Cross-Year and Within-Year Correlations

	PIAT MATH		PIAT READING RECOGNITION		PIAT READING COMPREHENSION		PPVT 1990 (10 AND 11 IN 1990)
	1988	1990	1988	1990	1988	1990	
PPVT 1986							
All Children	.44	.41	.40	.44	.42	.44	
3-5 Years	.40	.37	.29	.38	.31	.40	
6-7 Years	.43	.39	.41	.46	.45	.47	.66[1]
8-9 Years	.48	.51	.50	.45	.51	.51	
10 and Over	.59	.61	.62	.76	.62	.61	

	PIAT MATH 1990	PIAT READING RECOGNITION 1990	PIAT READING COMPREHENSION 1990
PPVT 1990[1]	.52	.55	.59

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[1] Children 10 and 11 in 1990.

6

NLSY CHILD DATA FILES & DOCUMENTATION

This section describes the NLSY Child Data files, documentation, and the primary components of the NLS main Youth documentation. The major characteristics of the data files are described and suggestions for their access and management are outlined. Details on hardware requirements and data formats are provided. The section concludes with a list of the various supplemental documentation and publications available to users and other persons interested in exploring the applicability of the data.

NLSY Child data are currently available on both magnetic tape and on CD-ROM. One set of hardcopy documentation has been prepared for data tape purchasers, and another for CD-ROM users. Select documentation items such as codebooks and numerics are also provided on the data tapes themselves. As of the 1990 release, CD-ROM users currently receive the 1986-1990 Child Data as well as the entire 1979-1991 NLS Youth longitudinal record for females on disc. The CD-ROM also contains variable descriptions and codebook information for the entire NLSY record, the child assessment items, and the constructed child variables.

Researchers who are considering the applicability of the NLSY Child Data for their research needs are encouraged to purchase, at a minimum, a set of assessment instruments. Documentation purchases made prior to a data order are subtracted from the cost of the final order. Extra sets of documentation and individual documentation items are available from the NLS User Services office. Ordering information for anyone interested in obtaining the NLSY Child Data or documentation is provided on the last page of text in this section.

Child Data on Tape

The NLSY Child Data on tape are available as two 9-track magnetic tape reels or as two IBM 3480 cartridges. The tapes are written in EBCDIC or ASCII format, either unlabeled or with IBM Standard or

ANSI labels. All NLSY Child tapes are 6250 bpi density and blocked at approximately 32K. The data are organized as follows:

> Tape Volume/Reel 1 - 1990 NLSY Child Data File: data and documentation for all constructed child-specific variables from the mother's 1979-1990 longitudinal record, more than 1,700 variables picked up directly from the mother's record and attached to her children, and created scores from the 1986/1988/1990 assessments. The 8,513 records on this file represent all children known to have been born to NLSY women as of the 1990 survey.
>
> Tape Volume/Reel II, Files 2-4 - NLSY Child "Raw Item" Files: data and documentation for the individual unedited questionnaire items from the 1986/1988/1990 *Mother Supplements, Child Supplements,* and *Child Self-Administered Supplements.* The number of observations on each of these files reflects the number of children assessed in each child interview year. The 1986 Raw Item file contains 4,971 child cases, the 1988 file contains 6,266, and the 1990 file contains 5,803 cases.

Linking Tape Files

The child sequential identification code (E1.) allows the user to link children with their siblings on the Child files or with their mothers on the main NLSY files. Tape users who need data items from the NLSY longitudinal record that do not appear among the items selected for the Child dataset may link this information with existing child files by means of the child or mother identification code (ID). The child ID (E1.) is composed of the first 5 digits of the mother's sequential ID plus a 2-digit code (01-08) generally indicating the child's order of birth. All children with the same first 5 digits in their ID are siblings. Since the child ID contains the first 5 digits of the mother ID, either the child ID or the mother ID (E2.) enables users wishing to create a mother-based file to extract maternal characteristics from the Child Data file and write them out only for mothers. Any NLSY Child file on tape can be linked with other child files by means of the child ID (E1.), located on columns 1-7 of each file.

File Management

Many researchers who acquire the tapes revise them by reformatting, subsetting, or creating new variables. Since CHRR can accept responsibility only for the tapes and documentation that it has supplied, users who intend to modify and/or copy the data should develop a set of procedures to guarantee the integrity of the tapes furnished by CHRR. CHRR suggests that users make a copy of each original tape upon receipt and never make changes to an original tape. The addition of locally created variables will usually entail expansion of the logical record length. Since tape users may later wish to obtain future versions of the NLSY Child data files, which will contain both new variables and updates to existing variables, user-designed modifications should be planned with flexibility in mind. Any technical problems encountered in using a data tape should be reported to the NLS User Services office as soon as possible.

Child Data on CD-ROM

The NLSY Child CD-ROM contains all of the 1979-1991 NLS Youth data elements (about 35,000 variables), exclusive of the comprehensive NLSY workhistories and the NLSY geocode data, for females as well as the NLSY 1979-1990 Child Data (about 9,000 variables). The Child Data on compact disc have been grouped into record types that reflect the topical and instrument-related organization of the data set itself (see Table 6.1). The descriptions appearing after the record type names in Table 6.1 provide brief explanations of the types of variables present within each child record type. Users should note that the CD-ROM Child record types do not contain the more than 1,700 variables on the magnetic tape version that were drawn directly from the mother's record and converted to child-based variables. Rather, all of the NLSY variables can be easily accessed through software provided on the CD-ROM. CHRR recommends that disc users acquire or have ready access to copies of the data collection instruments and supplemental documentation items, discussed later in this section, that are relevant to the dataset(s) with which they will be working.

Child CD-ROM Software

The Child disc contains search and extraction software that enables users to perform the following five functions:

SEARCH the documentation files for categories of variables clustered by (1) topical record type (e.g., ASSESS90), (2) any word or combination of words found within the titles or variable descriptions (e.g., CHILD, AGE) and for specific variables chosen by (3) reference or questionnaire numbers.[5]

VIEW a screen image of each variable's codebook information, i.e., coding categories and frequencies for the entire universe of NLS female Youth (6,283) or children ever born as of 1990 (8,513) or view the data content for a given respondent or child by identification code (e.g., Female Case #3 or Child Case #301).

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[5] Users are cautioned that, since the titles used to describe the Child variables on the CD-ROM are not consistently linked to the KEY WORD IN CONTEXT function, use of this feature will not yield a comprehensive listing of all desired occurrences of a particular KEYWORD. Users interested in searching by word or topic are strongly encouraged to use the ANY WORD IN CONTEXT function or to scan the hardcopy codebook or numeric, both of which are arranged by topic. Users of the Youth data on CD-ROM will not encounter this limitation and will find that the KEYWORD function reliably generates a complete list of relevant titles.

SELECT up to 1,024 variables for inclusion in an extract specification file used to generate the data and documentation files described below.

EXTRACT data for the full universe of female respondents or children or for a sample restricted by race, sex, number of cases, or user-specified Boolean, and produce data files with SAS or SPSS control cards.

DOCUMENT the file by producing a listing of each extracted variable including its reference number, variable title, record type, number of valid cases, and minimum-maximum-mean values and a codebook file depicting the coding categories, full universe frequencies, verbatim and questionnaire number (where available), reference number and variable title.

Child CD-ROM Hardware

Minimum hardware requirements, at the time of the 1990 Child release, for the NLSY Child CD-ROM are outlined below:

(1) an IBM compatible PC, running MS-DOS, with 640K memory,
(2) a CD-ROM drive connected to the PC,
(3) Microsoft CD-ROM extensions (V2.0 or above) installed on the PC, and
(4) a writable disk connected to the PC. A hard disk is not required, but a 20 megabyte or larger hard disk is recommended.

Execution times will vary based on hardware configurations. Users should note that the number of variables being extracted has a negligible effect on processing times but that the access time of the CD reader is a critical factor. The relative "power" of the PC is not a critical factor in extracting times. However, subsequent analysis runs against the resultant file with such statistical packages as SAS or SPSSX are greatly affected by PC power.

Coding Conventions

In order to facilitate data processing, certain coding conventions have been generally followed. Where coding information is particularly complex and detailed, codebook entries refer the user to attachments and appendices that are compiled in the NLSY Main File Codebook Supplement, available from CHRR and discussed later in this Section.

The following list briefly describes the various conventions used in coding the NLS Youth and NLSY Child data. Special coding conventions, particularly those associated with missing values, are noted in the topical discussions in Section 4 of this handbook.

(1) Nonresponse. With the exception of the NLSY Child Raw Supplement data and a few child data variables (specially noted in this Handbook and documented in the Child Codebook), nonresponse categories are routinely coded in the following fashion:

-5	Noninterview
-4	Valid skip
-3	Invalid skip
-2	Don't know
-1	Refusal

(2) Unspecified Missing. Users of the Child Raw Supplement Item data files on tape will find only one nonresponse code of "-6" used to designate any case with missing data, regardless of reason. There are no "noninterviews" on these raw item tape files, since the universe of children has been restricted to only those children interviewed in a particular year. CD-ROM users, accessing these same items in the CHDSUP or MOMSUP record types, will find the "-6 Missing" category as well as a code of "-5" for noninterviews for each assessment year.

(3) Imputation. In general, CHRR does not impute missing values or perform extensive consistency checks across the various years. Exceptions to this rule do occur when supporting evidence is available, as in the consistency edits performed on child characteristics. Data quality checks most often occur in the process of constructing: (1) key variables from the NLS main Youth file, (2) child date of birth, gender, and age, and (4) constructed child assessment scores.

(4) Yes/No. Dichotomous variables indicating a "yes/no" response are coded "Yes"=1; "No"=0. Other dichotomous variables have frequently been reformulated to permit this convention to be followed.

(5) Truncation. To insure respondent confidentiality, income variables with amounts that exceed particular limits are truncated so that values exceeding the upper limits are converted to a set of maximum value. For specific information on the yearly income levels, please consult the section on Accessing NLS Variables by Codebook in the current *NLS Users Guide*.

NLSY Child Documentation

Child Data Collection Instruments

Special interview, assessment, and self-report schedules are used during each child survey year to gather information on each child. The 1986 set includes a *Mother Supplement* and a *Child Supplement*. Starting in 1988 a *Child Self-Administered Supplement* for children ten years of age and older was added to the data collection effort. Since there are variations in format and content across years, users are urged to obtain a complete set of Child instruments for each year (see Table 2.1 at the end of Section 2).

NLSY Child Assessment Data Users Guide

The *Child Assessment Data Users Guide* contains information on the contents of the current data release, characteristics of the child and mother samples, sampling constraint issues of which users should be aware, and a discussion of each child assessment administered during the current round of child interviews. Users of both the tape and CD-ROM versions of the Child Data are encouraged to review this document prior to accessing the data. Since this Guide is issued concurrently with the release of each round of Child Data, it represents the most timely set of instructions available for use with the data prior to the issue of an updated Child Handbook.

NLSY Child Codebooks

The *NLSY Child Codebook* documents the full range of Child variables, arranged in a loosely topical and instrument-related order following the schema in Table 6.2. Key linkage information, case identification information, and interview year-specific variables appear first. Topical modules drawn from the longitudinal record of the mothers are followed by direct "pick-up" variables and constructed scores from the 1986/1988/1990 child assessment instruments. The introductory pages of the 1990 Child Codebook present a detailed list of the variables grouped by reference number (see Table 1 at the beginning of the Codebook, "Sequential Order of the NLSY Child File by Subject Matter, 1990"). Separate versions of the codebook have been tailored for each type of Child data medium. These codebooks, one set for the Child Data and the Child Raw Item Data on tape, and another appropriate for the CD-ROM, are discussed below. After reading the discussion below, users may also wish to consult the section of the current *NLS Users Guide* titled "Accessing NLS Variables by Codebook" for additional details on NLS documentation.

Codebook Entries.

Each entry in the Child Codebook contains information about the nature of the variable (variable title), its unique identifying reference number ("E" # in 1990), its source (mother's record or child assessment), and the distribution of its values across all relevant cases. This documenting information is arranged in what is called a "codeblock," illustrated in Figures 6.1 and 6.2.

The questionnaire location for NLSY child entries drawn from the mother and child supplements is found in parentheses on the left-hand side of the codeblock after the reference number and preceding the descriptive variable title. The question number for child variables that are drawn directly from the mother's main Youth files can be found in the hardcopy codebook immediately under the source number. For compact disc users, no question number category appears for child variables.

Questions from the specific assessment instruments are identified by "MS" for Mother Supplement or "CS" for Child Supplement or Child Self-Administered Supplement. The numbers that follow this prefix refer to the year of the survey, then to the deck number printed at the top of each page in the survey instrument, and finally to the column number(s) printed alongside each question in the assessment instrument.

Variables taken directly from the NLSY main file are identified in the hardcopy codebook by an "R" number in the source location (in parentheses to the right of the "E" number). These Youth cross reference numbers indicate the variable's reference number on the NLSY main file. On the compact disc, variables taken directly from the NLSY main file, while included in the CD-ROM Child Codebook and Numeric Index, must be accessed through the mother's variables in the Youth Record Types.

Variables that are constructed for the child data set contain an asterisk (*) in the source number location, next to the "E" reference number. Since these variables are created from two or more inputs, no particular question number is applicable.

Categorical Codes.

Many variables that are coded as discrete categories have their full range of values printed in the codeblock as in the following example:

E 470.40 (R340747.) MARITAL STATUS OF MOTHER *KEYVAR* 90 INT

0 NEVER MARRIED
1 MARRIED
2 SEPARATED
3 DIVORCED
4 REUNITED
6 WIDOWED

Continuous Codes.

Continuous values are often grouped into more manageable and hopefully useful frequency distributions as in the example below. In cases where grouped categories would not be useful, only the range of values is provided.

E 70.10 (*) AGE OF CHILD (IN MOS) AT CHILD ASSESSMENT DATE, 90 INT

0-11 MONTHS
12-23 MONTHS
24-35 MONTHS

36-47 MONTHS
48-59 MONTHS
60-71 MONTHS
72-83 MONTHS
84-95 MONTHS
96-107 MONTHS
108-119 MONTHS
120 + MONTHS

NLSY Child Numeric Indices

Each *NLSY Child Numeric Index* provides a sequential listing of all the variables included on the tape version of each Child data file. The numeric includes the following information: the child or "E" reference number, the variable description, the NLSY main file reference ("R") number where relevant, and the variable location (columns and format for tape, Record Type for CD-ROM). As with the Child Codebooks, each type of data file is accompanied by the appropriate numeric index.

NLSY Child Documentation for Magnetic Tape Users

One set of documentation accompanies the two-volume 1990 data tape release. A codebook and one or more numeric indices document each of the following four files:

1990 NLSY Child Data File - constructed child-based variables from the mother's 1979-1990 longitudinal record, select mother-based items and created scores from the 1986/1988/1990 assessments. Documentation for this file consists of:

(1) The ***1990 Child Index*** which provides a numerically arranged listing of those variables appearing on the 1990 Child Data File. The numeric includes the following information: the child or "E" reference number, the variable description, the NLSY main file reference number where relevant, and the variable location on the tape.

(2) The ***1990 Child Codebook*** which provides the following types of detailed information for each variable: the child reference number, the variable's title, coding categories, frequency distribution, variable location, as well as a reference to the source of the variable (whether a created variable or a direct pickup from one of the mother/child supplements or the main NLSY questionnaire). References to various NLSY main file attachments and appendices providing supplementary coding and variable creation procedures are also included.

Researchers who make extensive use of data derived from the mother's record should consider ordering the NLSY main file documentation that more fully explains these variables.

NLSY Child Raw Item Files - individual unedited questionnaire items from the 1986/1988/1990 *Mother Supplements, Child Supplements*, and *Child Self-Administered Supplements*. Documentation for these files consists of the following items:

(1) Assessment year (1986, 1988, and 1990) ***Child Indices*** each providing a numerically arranged listing of the variables present on that file. Each index includes the following information: the child or "E" reference number, the variable description (title), and the variable location on the tape;

(2) The ***1986/1988/1990 Child Raw Supplement Codebook*** that presents detailed documentation for each variable present on these three files. Codeblocks contain the following: the child reference number, the variable's title, coding information, frequency distribution, variable location, as well as a reference to the source of the variable.

NLSY Child Documentation for CD-ROM Users

The *NLSY Child Compact Disc Users Guide* provides installation, usage and maintenance instructions for the NLSY Child CD-ROM. The *Child CD-ROM Index* and *Codebook*, described below, are available for CD-ROM users who wish to obtain a paper copy of the documentation. The more than 1,700 direct pick-ups from the mother's record, documented in the paper version of the *Child CD-ROM Index* and *CD-ROM Codebook* as child-based variables, appear on the CD-ROM itself only as female-based variables. Please note that hardcopy versions of the *Child CD-ROM Index* and *CD-ROM Codebook* are not included in the purchase price of the CD-ROM.

(1) The ***1990 Child CD-ROM Index*** provides a numerically arranged listing of all variables selected for the tape version of the Child data, only a subset of which are stored as child-based variables in the Child Record Types on the CD-ROM. The numeric includes the following information: the child or "E" reference number, the corresponding variable title, the NLSY main file reference number ("R" #) where relevant, and the Child Record Type in which the constructed child-based variables can be found;

(2) The ***1990 Child Codebook*** provides the following types of detailed information for each variable: the child reference number, the variable's title, coding categories, frequency distribution, the Child Record Type where relevant, as well as a reference to the source of the variable (whether a created variable or a direct pickup from one of the mother/child supplements or the main NLSY questionnaire or a created variable). References to various NLSY main file attachments and appendices that provide coding and variable creation procedures are also included. This document includes variables that do not appear as child-based variables on the CD-ROM.

As already mentioned, researchers who make extensive use of data derived from the mother's record should consider ordering relevant portions of the NLS Youth main file documentation that more fully explain these variables.

Supplemental NLS Youth Documentation

Hardcopy supplemental documentation specific to the NLS Youth data set is available as special purchase items from CHRR. These supplementary materials include attachments containing coding information and variable creation procedures as well as glossaries of terms and various technical and background reports. Ordering information is provided at the end of this section, before the tables.

NLSY Technical Sampling Report. This technical manual, published by NORC in 1983, describes the procedures utilized to select the civilian and military Youth samples, as well as the weights and standard errors for the initial survey years.

NLSY Technical Sampling Report Addendum. This supplement to the Technical Sampling Report presents in tabular form the standard errors and deft factors for the 1982-1990 survey years. Included is a description of the two survey administration methods (Computer Assisted Personal Interview or CAPI versus paper or PAPI) used during the 1990 fielding of the NLSY.

NLSY Survey Instruments. A set typically includes a copy of each NLSY survey year questionnaire, special data collection supplements (e.g., Drug Use), an interviewer's reference manual (QxQ's) for the most recent survey year, household interview forms, yearly income tables, employer supplements (source of Work History information), and job calendars.

NLSY Main File Codebook Supplement. This compilation contains special topical and technical reports, variable creation procedures, and coding information not present either in the hardcopy or electronic versions of the codebook. The following attachments, appendices, and reports are included:

> Attachment 3: Industry and Occupation Codes - (1) 3-digit 1970 Census classifications used to code job and training information as well as occupational aspiration information and Employer Supplements; (2) 3-digit 1980 Census codes used in addition to the 1970 codes beginning with the 1982 survey, to classify the industry and occupation of respondent's CPS job; (3) 1977 military occupational codes used to classify 1980-1985 questions on military jobs and occupations.
>
> Attachment 4: Fields of Study in College - coding classifications for the major fields of college study and subspecialities.
>
> Attachment 5: Index of Labor Unions and Employee Associations - codes for the 1979 questions on name of union/employee association for jobs 1-5.

Attachment 6: Other Kinds of Training - categories of occupational training used to code the 1979 question on types of other training programs in which a respondent was enrolled.

Attachment 7: Other Certificate Codes - codes for types of certifications (i.e., practical nurse, welding, insurance, chef, etc.) received by a respondent as of the 1979 interview.

Attachment 8: Health Codes - modified version of the International Classification of Diseases (ICD-9) codes used to classify health problems reported by Youth respondents in 1979-1982 and 1988-1990.

Attachment 100: Geographic Regions - listing of states that comprise each of the four U.S. regions; used in coding region of residence.

Attachment 101: Country Codes - foreign country codes used to code respondent's country of residence, country of parents' birthplace, and country of citizenship at time of immigration.

Attachment 102: State FIPS (Federal Information Processing Standards) Codes - used to code respondent's state of birth and state of residence.

Attachment 103: Religion Codes - denomination categories used to code the 1979 religion of respondent.

Attachment 106: *Profiles of American Youth* - general and technical information on the 1980 administration of the ASVAB (Armed Services Vocational Aptitude Battery) to NLSY respondents. Included are technical notes on the ASVAB scale scores, an annotated bibliography, an example of the test score report, and brochures disseminated to participants. An *Addendum* provides information on the creation of the two AFQT (Armed Forces Qualification Test) scores, added to the NLSY data set with the release of the 1990 data.

Appendices 1-9: variable creation code used to create the following key NLS Youth variables (1) Employment Status Recode (ESR), (2) Total Net Family Income (TNFI), (3) Unemployment Rate, (4) SMSA, (5) Urban-Rural, (6) Highest Grade Completed. Also included is background information on Job Satisfaction Measures, the Job Characteristic Index, the Supplemental Fertility File, and the procedures for linking jobs through survey years.

High School & Transcript Surveys: Overview & Documentation - information on the sample design, field work, and types of variables collected during the three rounds of this special NLS Youth data collection effort. Included are a codebook, course coding instructions, course codes, and copies of the coding forms and school questionnaire, as well as addition references to other reports prepared by the sponsoring agency.

NLSY Geocode Data File Codebook Supplement. This document contains coding information and variable derivations for variables on the NLSY geocode data files. In addition to Attachments 100, 101, and 102 and Appendix 7 described above, this supplement also includes the following:

> Appendix 10: Geocode Documentation - year by year descriptions of how the geocode files were constructed, important information on changes in SMSA designations and detailed explanations of the missing values for the geocode variables.
>
> Attachment 104: SMSA Codes - coding information used to classify residence at each interview date.
>
> Attachment 105: Addendum to FICE Codes - supplementary identification numbers for those colleges and universities not listed in the Education Directory Colleges and University (1981-82, 1982-1983 supplement).

NLS Publications & Services

NLS User Services distributes a variety of materials designed to keep the research community up-to-date on both the current status of the surveys and on-going NLS research. The following provides brief descriptions of the publications, technical manuals, and bibliographies that are available to the public user. Those wishing to order any of the following items should request a *Publication Request Form* from NLS User Services, address listed at the end of this section.

NLS Handbook

The Center annually prepares an *NLS Handbook* that provides an overview of each of the NLS cohorts. It contains information on sample characteristics, the numbers and time of interview, retention rates, and a summary of the major data elements available within each data set. The Handbook presents a bibliographic listing of recent research that uses data from the NLS Youth, the NLSY Children, and the four Original NLS Cohorts. It describes the various NLS CD-ROMs, magnetic tapes, and documentation items available to the public. Finally, the Handbook discusses additional publications, technical manual, and reports related to the NLS and provides ordering information for the datasets and their documentation. The document, routinely included with any NLS data order, is available at no charge to anyone interested in the data.

NLSUPDATE Newsletter

A quarterly newsletter is prepared and distributed at no cost to all purchasers of NLS data as well as other interested persons. The newsletter contains: updates on the status and availability of the various

NLS data tapes and CD-ROMs; notices to users of errors in data files or documentation; summaries of in-progress and completed NLS research; and other information of general interest to the NLS research community. Persons interested in subscribing to the newsletter should contact NLS User Services, address provided at the end of this Section.

NLS Users Guide

This detailed and comprehensive manual, published yearly, is designed as a how-to guide for those researchers working with one or more of the NLS data sets. The guide consists of three core sections: (1) A detailed discussion is provided of the sampling design, sampling methodology, and field procedures utilized during the surveys of each NLS cohort. Weighting, sample representativeness, and attrition are discussed and a series of tables depict the number of respondents who continued to be interviewed at each interview point as well as the number and reasons for noninterview of those who have attrited. (2) A topical guide to the NLS presents, for each cohort, a description of the primary variables available on select topics. NLS subject areas covered in the 1993 edition include:

Age
Alcohol use
Aptitude/achievement scores
Child care
Class of worker
Crime/delinquency
Discrimination
Drug use
Educational status and attainment
Geographic residence
Government jobs and training
High school and college surveys
Household composition
Job characteristics
Job satisfaction
Labor market status
Marital status and transitions
Occupations & occupational prestige
Poverty status
Public Assistance
Race/ethnicity
School discipline
Sex
Work histories

Each topic includes cautionary notes to users identifying problems and idiosyncrasies associated with certain variables, crosswalks to existing documentation and survey instruments and, for selected topics, descriptive tables of data. (3) A third section provides information on how to access NLS variables via the Center's extensive hardcopy and electronic documentation system with cautionary notes to users about selecting appropriate variables, and methods of extracting data from the NLS magnetic tapes and compact discs.

The *NLS Users Guide* is distributed at no charge to all persons acquiring any NLS data set, including the NLSY Child Data, and is available at no cost to other interested persons residing within the continental United States.

Report on Maternal-Child Health Data from the NLSY

This report uses data from the 1983-1988 rounds of the NLS main Youth surveys to describe prenatal, infant and child health information for NLSY mother and their children. The women in this sample represent a national cross-section of mothers age 23 to 30 years as of January 1, 1988. Several tables are included that present results by race/ethnicity, poverty status, and age of mother. The report also provides baseline information about the health status of the NLSY children and reports both weighted and unweighted statistics. *Maternal-Child Health Data from the NLSY: 1988 Tabulations and Summary Discussion* is available from CHRR at no charge.

NLSY Bibliographies on Fertility and Children

CHRR has developed a bibliographic database that contains reference to research on the fertility and child care related behavior of NLS Youth respondents as well as to research on the NLSY children. Updated periodically, the database contains entries that are retrievable by author, title, topic, and type of publication. The current comprehensive listing, titled *Research Using NLSY Data on Fertility, Child Care and Child Development*, includes more than 300 items of which more than half are published articles, theses, and reports. To date, the database has also been used to generate the following topical bibliographies:

Research Using NLSY Data on Adolescent Fertility & Sexual Activity
Research Using NLSY Child Care Data
Research Using NLSY Child Assessment Data
Research Using NLSY Data on Child Health
Research Using NLSY Data on Maternal Employment, Fertility & Children

Users should note that, unlike the NLS bibliographies discussed below, these citation listings are not annotated.

NLS Annotated Bibliographies

The Center actively maintains an up-to-date archive of NLS research and regularly publishes an annotated bibliography of this work. A two-volume printed set is currently available. The *NLS Annotated Bibliography 1968-1989* contains approximately 1,600 summaries of NLS-based journal articles, working papers, and dissertations that have been published over the 20 year period. An update to this initial publication, the *NLS Annotated Bibliography: 1990-1993*, contains an additional 300 entries of newly-found research. This two volume set is distributed at no charge to customers within the United States. Users interested in the NLSY Child data should note that, while the NLS bibliographies contain annotated references to works based on the Child data (inclusive of the items in the Child bibliographic database as of the time of publication), the coding categories used to classify these items in the NLS bibliographies are broader than those used in the Child bibliographies mentioned above.

NLS Research Summaries

A bibliography database has been developed by the Center which allows retrieval of NLS research by specific authors, cohorts, or keywords. Designed to assist the NLS researcher in reviewing work conducted to date on selected topics and/or given cohorts, research summaries are provided at no cost to NLS public users. Persons interested in this service should contact NLS User Services at the address listed at the end of this Section.

NLS Research Report Publication List

The Center continues to distribute NLS research reports prepared over the past 25 years by the Center's research staff. These reports include: (1) the large major cohort research volumes based on single survey year data collections of the Older NLS cohorts and the NLSY cohort; and (2) other special reports prepared by Center investigators. Persons interested in obtaining the *NLS Research Report Publication List* should contact NLS User Services, address listed below.

Ordering Information

Current and potential users interested in ordering the NLSY Child data and accompanying documentation should contact the NLS User Services office for a Data/Documentation Request Form and current price information. Anyone interested in the publications discussed in this section or in the *NLS Handbook* that are listed as available from CHRR should request a Publication Request Form.

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Note: Customers requesting materials to be sent outside of the continental United States should specify on the order form the type of mail service requested and remit a handling fee to cover shipping costs. This charge applies to requests for materials available at no cost as well as to purchases.

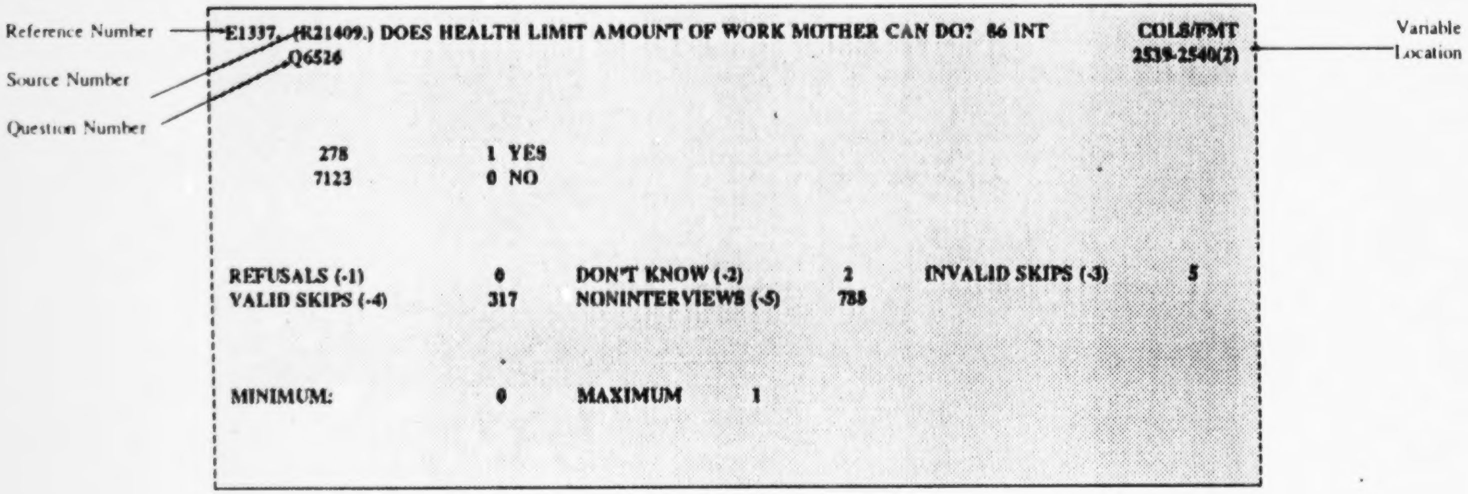
Table 6.1 NLSY 1979-1990 Child Data: CD-ROM Child Record Types

ASSESS86	13 sets of raw & normed 1986 child assessment scores PPVT age Child sampling weight 1986
ASSESS88	13 sets of raw & normed 1988 child assessment scores PPVT age Child sampling weight 1988
ASSESS90	11 sets of raw & normed 1990 child assessment scores PPVT age Child sampling weight 1990
CHDBKGN	Child-mother & child-sibling linkage variables Child demographic characteristics Child's usual residence Father presence
CHDCARE	Current childcare 1984, 1985, 1986, 1988 Retrospective childcare in first 3 years of life
CHDSUP86	1986 *Child Supplement* questionnaire items Child health, 1986 Child enrollment and grade level, 1986 Interviewer evaluation of testing conditions, 1986
CHDSUP88	1988 *Child Supplement* questionnaire items Child health, 1988 Child enrollment and grade level, 1988 Headstart experience, 1988 Interviewer evaluation of testing conditions, 1988 1988 *Child Self-Administered Supplement* questionnaire items
CHDSUP90	1990 *Child Supplement* questionnaire items Child health, 1990 Child enrollment and grade level, 1990 Headstart experience, 1990 Interviewer evaluation of testing conditions, 1990 1990 *Child Self-Administered Supplement* questionnaire items
EMPINC	Amount of public assistance Maternal CPS history
FAMBKGN	Maternal age at date of interview Maternal intelligence Maternal educational attainment at date of interview Maternal enrollment status at date of interview
MHHCOMP	Household composition 1979-current date of interview Age, education, and work status of HH members
MOMSUP86	1986 *Mother Supplement* questionnaire items
MOMSUP88	1988 *Mother Supplement* questionnaire items Mother report of school and family background, 1988
MOMSUP90	1990 *Mother Supplement* questionnaire items Mother report of school and family background, 1990
MOMWELL	Height of mother, 1981 Onset of maternal menses & sexual activity
NATAL	Prenatal care of child Postnatal care of child Infant health in first year of life
WORKHIST	Mother's quarterly employment history linked to child date of birth

Table 6.2 Content of NLSY Child Dataset by Reference Number

E 1. - E9999.	**ALL RAW, CREATED AND RECONSTRUCTED VARIABLES**
E 1. - E 37.40	Key mother/child identification variables and maternal interview dates
E 38. - E 459.	Child age and basic child/mother demographic information
E 460. - E2693.	Maternal marital record, maternal education history, household composition, maternal health, maternal delinquency/substance use, maternal/family income, and family employment history
E2700. - E3110.	Maternal Work History
E3200. - E3392.	Pre/postnatal Care and Infant Health Information
E3500. - E3748.	Child Care
E4021. - E5677.	1986 *Child Supplement & Mother Supplement* unedited items
E5700. - E5812.	1986 *Child Supplement & Mother Supplement* created raw and normed scores; 1986 child sampling weight
E5910. - E7864.	1988 *Child Supplement & Mother Supplement* unedited items including the 1988 *Child Self-Administered Supplement*
E7900. - E8007.	1988 *Child Supplement & Mother Supplement* created raw and normed scores; 1988 child sampling weight
E8100. - E9895.	1990 *Child Supplement & Mother Supplement* unedited items including the 1990 *Child Self-Administered Supplement*
E9900. - E9999.	1990 *Child Supplement & Mother Supplement* created raw and normed scores; 1990 child sampling weight

Figure 6.1 NLSY Child Codebook


Reference Number
Source Number
Question Number
Variable Location

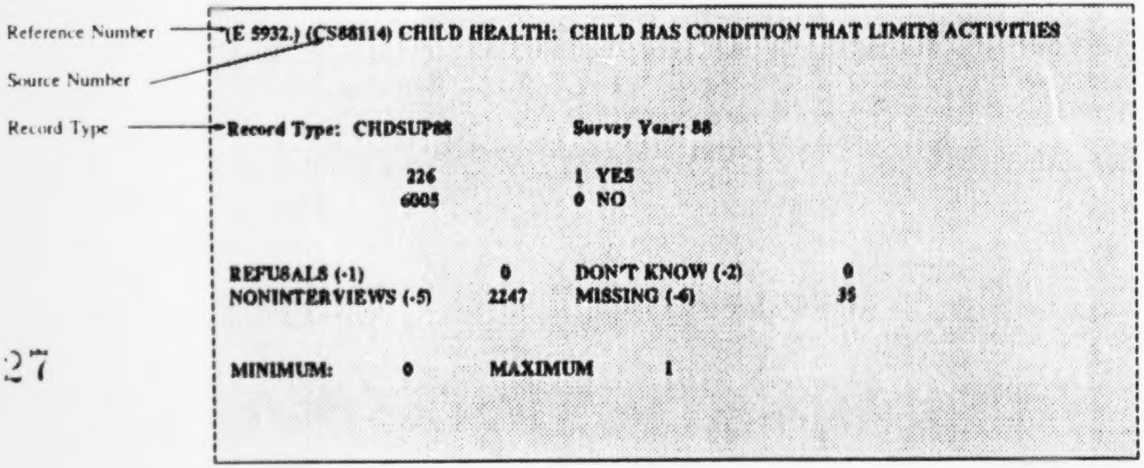
```
E1337. (R21409.) DOES HEALTH LIMIT AMOUNT OF WORK MOTHER CAN DO? 86 INT        COLS/FMT
       Q6526                                                               2539-2540(2)

        278            1 YES
       7123            0 NO

REFUSALS (-1)          0     DON'T KNOW (-2)       2     INVALID SKIPS (-3)      5
VALID SKIPS (-4)     317     NONINTERVIEWS (-5)  788

MINIMUM:               0     MAXIMUM        1
```

Figure 6.2 NLSY Child CD-ROM Codebook


Reference Number
Source Number
Record Type

```
(E 5932.) (CS88114) CHILD HEALTH:  CHILD HAS CONDITION THAT LIMITS ACTIVITIES

Record Type:  CHDSUP88                Survey Year: 88

                226                   1 YES
               6005                   0 NO

REFUSALS (-1)           0     DON'T KNOW (-2)      0
NONINTERVIEWS (-5)   2247     MISSING (-6)        35

MINIMUM:         0       MAXIMUM        1
```

527

528

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Appendix A

THE HOME INSTRUMENT RECODES FROM THE MOTHER SUPPLEMENT

DECK 02

SECTION 1: THE HOME

PART A: FOR CHILDREN WHO ARE LESS THAN 3 YEARS OLD

For ______________________ who has not yet had (his/her) 3rd birthday.
CHILD'S NAME

INSTRUCTIONS TO MOTHER/GUARDIAN:

We are interested in your family's lifestyle and rules.

Some questions you answer with a YES or NO or other word or phrase. Please circle the number that goes with the answer you choose.

Other questions have boxes for you to write in an answer.

If any question is not clear, please circle the question number and ask the interviewer about it when you have finished the booklet.

1. About how often does your child have a chance to get out of the house (either by himself/herself, or with an older person)?

	(CIRCLE ONE)		
Not at all	01	= 0	
About once a month or less	02		
A few times a month	03		
About once a week	04		
A few times a week	05		
4 or more times a week	06	= 1	
Every day	07		43-44/

---

2. About how many children's books does your child have of his/her own?

	(CIRCLE ONE)		
None	1	= 0	
1 or 2 books	2		
3 to 9 books	3	= 1	
10 or more books	4		45-46/

PLEASE TURN TO NEXT PAGE

DECK 02

3. How often do you get a chance to read stories to your child?

(CIRCLE ONE)

Never	01	= 0	
Several times a year	02		
Several times a month	03		
Once a week	04		
About 3 times a week	05	= 1	
Every day	06		47-48/

---

4. About how often do you take your child to the grocery store?

(CIRCLE ONE)

Twice a week or more	1	= 1	
Once a week	2	= 0	
Once a month	3		
Hardly ever	4		49-50/

---

5. About how many, if any, cuddly, soft or role-playing toys (like a doll) does your child have? (May be shared with sister or brother.)

(WRITE IN NUMBER OF TOYS.)

NUMBER OF TOYS = |__|__| 0 = 0; ≥1 = 1 51-52/

---

6. About how many, if any, push or pull toys does your child have? (May be shared with sister or brother.)

(WRITE IN NUMBER OF TOYS.)

NUMBER OF TOYS = |__|__| 0 = 0; ≥1 = 1 53-54/

PLEASE GO TO NEXT PAGE

DECK 02

7. Some parents spend time teaching their children new skills while other parents believe children learn best on their own. Which of the following best describes your attitude?

(CIRCLE ONE)

"Parents should always spend time teaching their children"................1 } = 1

"Parents should usually spend time teaching their children"...............2 } = 1

"Parents should usually allow their children to learn on their own"..............3 } = 0

"Parents should always allow their children to learn on their own..............4 } = 0

55-56/

---

8. Think for a moment about a typical weekday for your family. How much time would you say your child spends watching television on a typical weekday?

(WRITE IN HOURS PER WEEKDAY.) |___|___| 57-58/

Less than 1 hour per weekday...............00

Do not have a TV...........................95

---

9. Now, think about a typical weekend day for your family. How much time would you say your child spends watching television on a typical weekend day?

(WRITE IN HOURS PER WEEKEND DAY.) |___|___| 59-60/

Less than 1 hour per weekend day...........00

Do not have a TV...........................95

---

10. About how many hours is the TV on in your home each day?

(WRITE IN HOURS PER DAY.) |___|___| 61-62/

Less than 1 hour per day...................00

Do not have a TV...........................95

PLEASE TURN TO NEXT PAGE

DECKS 02-03

11. Does your child ever see his or her father, step father, or father-figure?

Yes..1

No...0 63-64/

---

12. Is this person his/her biological father, step father, or a father-figure?

(CIRCLE ONE)

Biological father..........................1

Step father................................2

Father-figure..............................3 BEGIN DECK 03

No father, step father, or father-figure....4 11-12/

---

13. What is his relationship to you?

(CIRCLE ONE)

Your spouse................................01

Your ex-spouse.............................02

Your partner...............................03

Your friend................................04

Your father................................05

Your grandfather...........................06

Your brother...............................07

Your uncle.................................08

Other (please write who)

______________________________ 09

No father, step father, or father-figure...10 13-14/

---

14. Does your child see this person on a daily basis?

Yes..1

No...0 } = 0

No father, step father, or father-figure....2 } 15-16/

PLEASE GO TO NEXT PAGE

DECK 03

15. How often does your child eat a meal with both mother and father (or step father or father-figure)?

(CIRCLE ONE)

More than once a day..........................01 } = 1
Once a day....................................02 }
Several times a week..........................03 }
Once a week...................................04 }
Once a month or less often....................05 } = 0
Never...06 }
No father, step father, or father-figure.......07 }

17-18/

---

16. Children seem to demand attention when their parents are busy, doing housework, for example. How often do you talk to your child while you are working?

(CIRCLE ONE)

Always talk to child when I'm working..........1 } = 1
Often talk to child when I'm working...........2 }
Sometimes talk to child when I'm working.......3 }
Rarely talk to child when I'm working..........4 } = 0
Never talk to child when I'm working...........5 }

19-20/

---

17. Sometimes kids mind pretty well and sometimes they don't. About how many times, if any, have you had to spank your child in the past week?

NUMBER OF TIMES: |___|___| $\geq 2 = 0$

21-22/

Did not spank child last week................00 0 or 1 = 1

MOTHER/GUARDIAN:

(1) IF YOUR CHILD IS LESS THAN 1 YEAR OLD, GO TO SECTION 2, PART A, PAGE 33.

(2) IF YOUR CHILD HAS HAD A 1st BIRTHDAY BUT HAS NOT HAD HIS/HER 2nd BIRTHDAY, GO TO SECTION 2, PART B, PAGE 39.

(3) IF YOUR CHILD HAS HAD A 2nd BIRTHDAY, GO TO SECTION 2, PART C, PAGE 43.

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DECK 03

SECTION 1: THE HOME

PART B: FOR CHILDREN WHO ARE AT LEAST 3 YEARS, BUT LESS THAN 6 YEARS OLD

For ______________________ who has had his/her 3rd birthday but has
CHILD'S NAME not had his/her 6th birthday.

INSTRUCTIONS TO MOTHER/GUARDIAN:

We are interested in your family's lifestyle and rules.

Some questions you answer with a YES or NO or other word or phrase. Please circle the number that goes with the answer you choose.

Other questions have boxes for you to write in an answer.

If any question is not clear, please circle the question number and ask the interviewer about it when you have finished the booklet.

---

1. About how often do you read stories to your child?

	(CIRCLE ONE)		
Never	01	= 0	
Several times a year	02		
Several times a month	03		
Once a week	04		
At least 3 times a week	05	= 1	
Every day	06		23-24/

---

2. About how many children's books does your child have of his/her own?

	(CIRCLE ONE)		
None	1	= 0	
1 or 2 books	2		
3 to 9 books	3		
10 or more books	4	= 1	25-26/

PLEASE TURN TO NEXT PAGE →

DECK 03

3. About how many magazines does your family get regularly?

(CIRCLE ONE)

None	1	= 0	
One	2	= 1	
Two	3		
Three	4		
Four or more	5		27-28/

---

4. Does your child have the use of a record player, or tape deck, or CD player, or tape recorder here at home and at least 5 children's records or tapes? (May be shared with sister or brother.)

Yes	1	= 1	
No	0	= 0	29-30/

---

5. Circle the things which you (or another adult or older child) are helping or have helped your child to learn here at home.

(CIRCLE ALL THAT APPLY)

a.	Numbers	1	= 1 Else 0	31-32/
b.	The alphabet	2	= 1 Else 0	33-34/
c.	Colors	3	= 1 Else 0	35-36/
d.	Shapes and sizes	4	= 1 Else 0	37-38/
e.	None of the above	5	Make 5a - 5d = 0	39-40/

---

6. How much choice is your child allowed in deciding what foods he/she eats at breakfast and lunch?

(CIRCLE ONE)

A great deal of choice	1	= 1	
Some choice	2		
Little choice	3	= 0	
No choice	4		41-42/

---

7. About how many hours is the TV on in your home each day?

(WRITE IN HOURS PER DAY).

HOURS PER DAY: |___|___| 0 - 4 = 1 43-44/

Less than 1 hour per day.......00 ≥ 5 = 0

Do not have a TV...............95

DECK 03

8. Most children get angry at their parents from time to time. If your child got so angry that he/she hit you, what would you do?

(CIRCLE ALL THAT APPLY)

If Q8 is coded 01 or 03 then Q8 (recode) = 0
Else Q8 (recode) = 1

Note: "Other" responses recoded into 01 or 03 where appropriate

Hit him/her back	01	45-46/
Send him/her to his/her room	02	47-48/
Spank him/her	03	49-50/
Talk to him/her	04	51-52/
Ignore it	05	53-54/
Give him/her household chore	06	55-56/
Take away his/her allowance	07	57-58/
Hold child's hands until he/she was calm	08	59-60/
Other (PLEASE WRITE WHAT ELSE) ____________	09	61-62/

---

9. How often does a family member get a chance to take your child on any kind of outing (shopping, park, picnic, drive-in, and so on)?

(CIRCLE ONE)

A few times a year or less	1	= 0	
About once a month	2		
About 2 or 3 times a month	3	= 1	
Several times a week	4		
About once a day	5		63-64/

---

10. How often has a family member taken or arranged to take your child to any type of museum (children's, scientific, art, historical, etc.) within the past year?

(CIRCLE ONE)

Never	1	= 0	
Once or twice	2	= 1	
Several times	3		
About once a month	4		
About once a week or more often	5		65-66/

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— TURN TO NEXT PAGE

BEGIN DECK 04

11. Think for a moment about a typical **weekday** for your family. How much time would you say your child spends watching television on a typical **weekday**?

(WRITE IN HOURS PER WEEKDAY.) |___|___| 11-12/

Less than 1 hour per weekday day... ...00

Do not have a TV........................95

---

12. Now, think about a typical **weekend** day for your family. How much time would you say your child spends watching television on a typical **weekend** day?

(WRITE IN HOURS PER WEEKEND DAY.) |___|___| 13-14/

Less than 1 hour per weekend day..........00

Do not have a TV........................95

---

13. Does your child ever see his or her father, step father, or father-figure?

Yes.....................................1

No......................................0 15-16/

---

14. Is this person his/her biological father, step father, or a father-figure?

(CIRCLE ONE)

Biological father.......................1

Step father.............................2

Father-figure...........................3

No father, step father, or father-figure...4 17-18/

PLEASE GO TO NEXT PAGE

DECK 04

15. What is his relationship to you?

(CIRCLE ONE)

Your spouse..............................01

Your ex-spouse...........................02

Your friend..............................03

Your partner.............................04

Your father..............................05

Your grandfather.........................06

Your brother.............................07

Your uncle...............................08

Other (Please write who)

_______________________________________09

No father, step father, or father-figure..10 19-20/

---

16. Does your child see this person on a daily basis?

Yes......................................1

No.......................................0 } = 0

No father, step father, or father-figure....2 } 21-22/

---

17. How often does your child eat a meal with both mother and father (step father or father-figure)?

(CIRCLE ONE)

More than once a day.....................01 } = 1

About once a day.........................02 }

Several times a week.....................03 }

About once a week........................04 }

About once a month.......................05 } = 0

Never....................................06 }

No father, step father, or father figure...07 } 23-24/

PLEASE TURN TO NEXT PAGE

DECK 04

18. Sometimes kids mind pretty well and sometimes they don't. About how many times, if any, have you had to spank your child in the past week?

NUMBER OF TIMES = |___|___| 25-26/

Did not spank child last week..............00

If Q18 = 0 or Q18 = 1 then Q18 (recode) = 1
If Q18 ≥2 then Q18 (recode) = 0

PLEASE GO TO SECTION 2, PART C, PAGE 43.

DECK 04

SECTION 1: THE HOME

PART C: FOR CHILDREN WHO ARE AT LEAST 6 YEARS, BUT LESS THAN 10 YEARS OLD

For ______________________________ who has had his/her 6th birthday but has not had his/her 10th birthday.
CHILD'S NAME

INSTRUCTIONS TO MOTHER/GUARDIAN:

We are interested in your family's lifestyle and rules.

Some questions you answer with a YES or NO or other word or phrase. Please circle the number that goes with the answer you choose.

Other questions have boxes for you to write in an answer.

If any question is not clear, please circle the question number and ask the interviewer about it when you have finished the booklet.

1. About how many books does your child have?

	(CIRCLE ONE)		
None	1	= 0	
1 or 2	2		
3 to 9	3		
10 or more	4	= 1	27-28/

---

2. About how often do you read stories to your child?

	(CIRCLE ONE)		
Never	01	= 0	
Several times a year	02		
Several times a month	03		
About once a week	04		
At least 3 times a week	05	= 1	
Every day	06		29-30/

If at least 3 of the 4 items (a thru d) are > 1 then Q3 = 1
Else Q3 (recode) = 0

DECK 04

3. How often is your child expected to do each of the following? (CIRCLE ONE NUMBER FOR EACH QUESTION)

	Almost Never	Less than 1/2 the time	1/2 the time	More than 1/2 the time	Almost Always	
a. Make his/her own bed?	1	2	3	4	5	31-32/
b. Clean his/her own room?	1	2	3	4	5	33-34/
c. Clean up after spills?	1	2	3	4	5	35-36/
d. Bathe himself/herself?	1	2	3	4	5	37-38/
e. Pick up after himself/herself?	1	2	3	4	5	39-40/
	Almost Never	Less than 1/2 the time	1/2 the time	More than 1/2 the time	Almost Always	

If Q3e ≥ 2 then Q3e (recode) = 1 If Q3e = 1 then Q3e (recode) = 0

---

4. Is there a musical instrument (for example, piano, drum, guitar, etc.) that your child can use here at home?

Yes....................................1 = 1

No....................................0 = 0 41-42/

---

5. Does your family get a daily newspaper?

Yes....................................1 = 1

No....................................0 = 0 43-44/

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PLEASE GO TO NEXT PAGE

6. About how often does your child read for enjoyment?

(CIRCLE ONE)

Every day....................................1
} = 1
Several times a week.........................2

Several times a month........................3

Several times a year.........................4 } = 0

Never..5 45-46/

---

7. Does your family encourage your child to start and keep doing hobbies?

Yes..1 = 1

No...0 = 0 47-48/

---

8. Does your child get special lessons or belong to any organization that encourages activities such as sports, music, art, dance, drama, etc.?

Yes..1 = 1

No...0 = 0 49-50/

---

9. How often has any family member taken or arranged to take your child to any type of museum (children's, scientific, art, historical, etc.) within the past year?

(CIRCLE ONE)

Never..1 = 0

Once or twice................................2

Several times................................3
} = 1
About once a month...........................4

About once a week or more often..............5 51-52/

PLEASE TURN TO NEXT PAGE

10. How often has a family member taken or arranged to take your child to any type of musical or theatrical performance within the past year?

(CIRCLE ONE)

Never....................................1 = 0
Once or twice............................2
Several times............................3
About once a month.......................4
About once a week or more................5 53-54/
= 1

---

11. About how often does your whole family get together with relatives or friends?

(CIRCLE ONE)

Once a year or less......................1
A few times a year.......................2
About once a month.......................3
= 0
Two or three times a month...............4
About once a week or more................5 55-56/
= 1

---

12. Think for a moment about a typical **weekday** for your family. How much time would you say your child spends watching television on a typical **weekday** ?

(WRITE IN HOURS PER WEEKDAY.) |___|___| 57-58/

Less than 1 hour per weekday..............00
Do not have a TV..........................95

---

13. Now, think for a moment about a typical **weekend** day for your family. How much time would you say your child spends watching television on a typical **weekend** day?

(WRITE IN HOURS PER WEEKEND DAY.) |___|___| 59-60/

Less than 1 hour per weekend day..........00
Do not have a TV..........................95

14. Does your child ever see his or her father, step father, or father-figure?

Yes....................................1

No.....................................0 61-62/

---

15. Is this person his/her biological father, step father, or a father-figure?

(CIRCLE ONE)

Biological father......................1

Step father............................2

Father-figure..........................3

No father, step father, or father-figure..4 63-64/

---

16. What is his relationship to you?

(CIRCLE ONE)

Your spouse............................01

Your ex-spouse.........................02

Your partner...........................03

Your friend............................04

Your father............................05

Your grandfather.......................06

Your brother...........................07

Your uncle.............................08

Other (please write who)

______________________________________ 09

No father, step father, or father-figure..10 65-66/

---

17. About how often does your child spend time with his/her father, step father, or father-figure?

(CIRCLE ONE)

Once a day or more often...............01

At least 4 times a week................02

= 1

About once a week......................03

About once a month.....................04

A few times a year or less.............05

= 0

Never..................................06

No father,step father, or father-figure...07 67-68/

PLEASE TURN TO NEXT PAGE

BEGIN DECK 05

18. About how often does your child spend time with his/her father, step father, or father-figure in outdoor activities?

(CIRCLE ONE)

Once a day or more often	01	= 1	
At least 4 times a week	02		
About once a week	03		
About once a month	04	= 0	
A few times a year or less	05		
Never	06		
No father, step father, or father-figure	07		
Don't know	98		11-12/

---

19. How often does your child eat a meal with both mother and father (step father or father-figure)?

(CIRCLE ONE)

More than once a day	01	= 1	
Once a day	02		
Several times a week	03	= 0	
About once a week	04		
About once a month	05		
Never	06		
No father, step father, or father-figure	07		13-14/

---

20. When your family watches TV together, do you or your child's father (or step father or father-figure) discuss TV programs with him/her?

Yes	1	= 1	
No	0	= 0	
Do not have a TV	2	= -4	15-16/

PLEASE GO TO NEXT PAGE

DECK 05

21. Sometimes children get so angry at their parents that they say things like "I hate you" or swear in a temper tantrum. Please check which actions you would take if this happened.

(CIRCLE ALL THAT APPLY)

f Q21b = 02
hen Q21 (re-
de = 0
se Q21 (re-
de) = 1

a. Grounding	01	17-18/
b. Spanking	02	19-20/
c. Talk with child	03	21-22/
d. Give him or her household chore	04	23-24/
e. Ignore it	05	25-26/
f. Send to room for more than 1 hour	06	27-28/
g. Take away his/her allowance	07	29-30/
h. Take away TV or other privileges	08	31-32/
i. Other (PLEASE WRITE WHAT ELSE) ______________________	09	33-34/

---

22. If your child brought home a report card with grades lower than expected, how likely would you be to ...

(CIRCLE ONE NUMBER FOR EACH QUESTION)

	VERY LIKELY				NOT AT ALL LIKELY	
a. contact his or her teacher or principal?	1	2	3	4	5	35-36/
b. lecture the child?	1	2	3	4	5	37-38/
c. keep a closer eye on child's activities?	1	2	3	4	5	39-40/
d. punish the child?	1	2	3	4	5	41-42/
e. talk with the child?	1	2	3	4	5	43-44/
f. wait and see if child improves on his/her own?	1	2	3	4	5	45-46/
g. tell child to spend more time on schoolwork?	1	2	3	4	5	47-48/
h. spend more time helping child with schoolwork?	1	2	3	4	5	49-50/
i. Other (PLEASE WRITE WHAT ELSE) ______________________ ______________________	8					51-52/

— 23. Sometimes kids mind pretty well and sometimes they don't. Sometimes they do things that make you feel good.

PLEASE ANSWER EACH QUESTION

How many times in the past week have you ... WRITE IN # TIMES IN PAST WEEK

a. had to spank your child? |___|___| 53-54/

If 23a ≥2 then 23a
(recode) = 0
Else 23a = 1

b. grounded him/her? |___|___| 55-56/

c. taken away TV or other privileges? |___|___| 57-58/

d. sent child to his/her room? |___|___| 59-60/

e. taken away his/her allowance? |___|___| 61-62/

f. shown child physical affection (kiss, hug, stroke hair, etc.)? |___|___| 63-64/

g. praised child for doing something worthwhile? |___|___| 65-66/

h. told another adult (spouse, friend, co-worker, visitor, relative) something positive about child? |___|___| 67-68/

MOTHER/GUARDIAN:

(1) IF YOUR CHILD **HAS NOT HAD** A 7th **BIRTHDAY**, GO TO SECTION 2 PART C, PAGE 43.

(2) IF YOUR CHILD IS **AT LEAST** AGE 7 **YEARS** OR OLDER, GO TO SECTION 4, PAGE 67.

SECTION 1: THE HOME

PART D: FOR CHILDREN WHO ARE 10 YEARS AND OLDER

For ______________________ who has had his/her 10th birthday or higher.
CHILD'S NAME

INSTRUCTIONS TO MOTHER/GUARDIAN:

We are interested in your family's lifestyle and rules.

Some questions you answer with a YES or NO or other word or phrase. Please circle the number that goes with the answer you choose.

Other questions have boxes for you to write in an answer.

If any question is not clear, please circle the question number and ask the interviewer about it when you have finished the booklet.

1. About how many books does your child have of his/her own?

(CIRCLE ONE)

None..............................1
1 to 9............................2 } = 0
10 to 19..........................3
20 or more........................4 = 1

69-70/

PLEASE TURN TO NEXT PAGE

BEGIN DECK 06

If at least 3 of the 4 items (2a, 2b, 2d, 2e) are >1 then Q2 = 1
Else Q2 = 0

2. How often is your child expected to do each of the following? (CIRCLE ONE NUMBER FOR EACH QUESTION)

		Almost Never	Less than 1/2 the time	1/2 the time	More than 1/2 the time	Almost Always	
a.	Make his/her own bed?	1	2	3	4	5	11-12/
b.	Clean his/her own room?	1	2	3	4	5	13-14/
	If Q2c ≥ 2 then Q2c (recode) = 1 Else Q2c = 0						
c.	Pick up after himself/herself?	1	2	3	4	5	15-16/
d.	Help keep shared living areas clean and straight?	1	2	3	4	5	17-18/
e.	Do routine chores such as mow the lawn, help with dinner, wash dishes, etc.?	1	2	3	4	5	19-20/
f.	Help manage his/her own time (get up on time, be ready for school etc.)?	1	2	3	4	5	21-22/
	If Q2f ≥ 2 then Q2f (recode) = 1 Else Q2f = 0						
		Almost Never	Less than 1/2 the time	1/2 the time	More than 1/2 the time	Almost Always	

---

3. Is there a musical instrument (for example, piano, drum, guitar, etc.) that your child can use here at home?

Yes..............................1 = 1

No..............................0 = 0 23-24/

---

4. Does your family get a daily newspaper?

Yes..............................1 = 1

No..............................0 = 0 25-26/

PLEASE GO TO NEXT PAGE

DECK 06

5. About how often does your child read for enjoyment?

(CIRCLE ONE)

Every day..........................1
Several times a week...............2 } = 1
Several times a month..............3
Several times a year...............4
Never..............................5 } = 0
Don't know.........................8

27-28/

---

6. Does your family encourage your child to start and keep doing hobbies?

Yes................................1 = 1
No.................................0 = 0

29-30/

---

7. Does your child get special lessons or belong to any organization that encourages activities such as sports, music, art, dance, drama, etc.?

Yes................................1 = 1
No.................................0 = 0

31-32/

---

8. How often has a family member taken or arranged to take your child to any type of museum (children's, scientific, art, historical, etc.) within the past year?

(CIRCLE ONE)

Never..............................1 = 0
Once or twice......................2
Several times......................3
About once a month.................4
About once a week or more often.....5 } = 1

33-34/

---

9. How often has a family member taken or arranged to take your child to any type of musical or theatrical performance within the past year?

(CIRCLE ONE)

Never..............................1 = 0
Once or twice......................2
Several times......................3
About once a month.................4
About once a week or more often.....5 } = 1

35-36/

PLEASE TURN TO NEXT PAGE

10. About how often does your whole family get together with relatives or friends?

(CIRCLE ONE)

Once a year or less........................1 ⎫
A few times a year.........................2 ⎬ = 0
About once a month.........................3 ⎭
Two or three times a month.................4 ⎫
About once a week or more..................5 ⎭ = 1 37-38/

---

11. Think for a moment about a typical weekday for your family. How much time would you say your child spends watching television on a typical weekday?

(WRITE IN HOURS PER WEEKDAY.) |___|___| 39-40/

Less than 1 hour per day.......................00

Do not have a TV...............................95

---

12. Now, think for a moment about a typical weekend day for your family. How much time would you say your child spends watching television on a typical weekend day?

(WRITE IN HOURS PER WEEKEND DAY.) |___|___| 41-42/

Less than 1 hour per day.......................00

Do not have a TV...............................95

---

13. Does your child ever see his or her father, step father, or father-figure?

Yes..1

No...0 43-44/

---

14. Is this person his/her biological father, step father, or a father-figure?

(CIRCLE ONE)

Biological father............................1

Step father..................................2

Father-figure................................3

No father, step father, or father-figure.......4 45-46/

PLEASE GO TO NEXT PAGE

15. What is his relationship to you? DECK 06

(CIRCLE ONE)

Your spouse..............................01

Your ex-spouse...........................02

Your partner.............................03

Your friend..............................04

Your father..............................05

Your grandfather.........................06

Your brother.............................07

Your uncle...............................08

Other (please write who)

________________________________ 09

No father, step father, or father-figure....10 47-48/

---

16. About how often does your child spend time with his/her father, step father, or father-figure?

(CIRCLE ONE)

Once a day or more often....................01 } = 1
At least 4 times a week.....................02 }
About once a week...........................03 }
About once a month..........................04 }
A few times a year or less..................05 } = 0
Never.......................................06 }
No father, step father, or father-figure....07 } 49-50/

---

17. About how often does your child spend time with his/her father, step father, or father-figure in outdoor activities?

(CIRCLE ONE)

Once a day or more often....................01 }
At least 4 times a week.....................02 } = 1
About once a week...........................03 }
About once a month..........................04 }
A few times a year or less..................05 }
Never.......................................06 } = 0
No father, step father, or father-figure...07 }
Don't know..................................98 } 51-52/

PLEASE TURN TO NEXT PAGE

DECK 06

18. How often does your child eat a meal with both mother and father (step father or father-figure)?

(CIRCLE ONE)

More than once a day	01	= 1	
Once a day	02		
Several times a week	03	= 0	
About once a week	04		
About once a month	05		
Never	06		
No father, step father, or father-figure	07		53-54/

---

19. When your family watches TV together, do you or your child's father (step father or father-figure) discuss TV programs with him/her?

Yes	1	= 1	
No	0	= 0	
Do not have a TV	2	= -4	55-56/

---

20. Sometimes children get so angry at their parents that they say things like "I hate you" or swear in a temper tantrum. Please check which actions you would take if this happened.

(CIRCLE ALL THAT APPLY)

If Q12b = 2 then Q12b (recode) = 0
Else Q12b (recode) = 1

Grounding	01	57-58/
Spanking	02	59-60/
Talk with child	03	61-62/
Give him or her household chore	04	63-64/
Ignore it	05	65-66/
Send to room for more than 1 hour	06	67-68/
Take away his/her allowance	07	69-70/
Take away TV, phone, or other privileges	08	71-72/

Other (PLEASE WRITE OTHER ACTIONS)

____

______________________________ 09 73-74/

BEGIN DECK 07

21. If your child brought home a report card with grades lower than expected, how likely would you be to ...

(CIRCLE ONE NUMBER FOR EACH QUESTION)

	VERY LIKELY				NOT AT ALL LIKELY	
a. contact his or her teacher or principal?	1	2	3	4	5	11-12/
b. lecture the child?	1	2	3	4	5	13-14/
c. keep a closer eye on child's activities?	1	2	3	4	5	15-16/
d. punish the child?	1	2	3	4	5	17-18/
e. talk with the child?	1	2	3	4	5	19-20/
f. wait and see if child improves on his/her own?	1	2	3	4	5	21-22/
g. tell child to spend more time on schoolwork?	1	2	3	4	5	23-24/
h. spend more time helping child with schoolwork?	1	2	3	4	5	25-26/
i. Other (PLEASE WRITE WHAT ELSE) ________________________________					8	27-28/

---

22. Sometimes kids mind pretty well and sometimes they don't. Sometimes they do things that make you feel good.

(PLEASE ANSWER EACH ITEM)
How many times in the past week have you ...

	WRITE IN # TIMES IN PAST WEEK	
a. had to spank your child?	|___|___|	29-30/
b. grounded him/her?	|___|___|	31-32/
c. taken away TV or other privileges?	|___|___|	33-34/
d. sent child to his/her room?	|___|___|	35-36/
e. taken away his/her allowance?	|___|___|	37-38/
f. shown child physical affection (kiss, hug, stroke hair, etc.)?	|___|___|	39-40/
g. praised child for doing something worthwhile?	|___|___|	41-42/
h. told another adult (spouse, friend, co-worker, visitor, relative) something positive about child?	|___|___|	43-44/

If Q22a ≥ 2 then Q22a (recode) = 0
Else Q22a (recode) = 1

GO TO SECTION 4, page 67.

Appendix B

THE HOME INSTRUMENT RECODES FROM THE CHILD SUPPLEMENT

SECTION 12: INTERVIEWER OBSERVATIONS OF HOME ENVIRONMENT

EACH CHILD

STEP ONE: ANSWER ON THE BASIS OF YOUR PERSONAL OBSERVATION OF THE HOME ENVIRONMENT OF EACH CHILD IN STUDY AT TIME OF YOUR VISIT.

STEP TWO: RECORD OBSERVATIONS AT CONCLUSION OF THE ENTIRE INTERVIEW FOR THIS CHILD.

STEP THREE: IS CHILD'S AGE...

LESS THAN 3 YRS OLD........(GO TO PART A, CS-80).......... 1

3 YRS - 5 YRS, 11 MOS......(SKIP TO PART B, CS-81)........ 2 69-70/

6 YRS AND OLDER............(SKIP TO PART C, CS-82)........ 3

NOTE: FOR PURPOSES OF SECTION 12, CHILD'S "HOME" IS (HIS/HER) OFFICIAL PERMANENT RESIDENCE. IF CHILD LIVES IN INSTITUTION, IN GROUP HOME OR AT SCHOOL, CIRCLE CODE '2', NOT OBSERVED, FOR EACH ANSWER.

PART A: CHILD LESS THAN 3 YRS

1. DID YOU OBSERVE THIS CHILD AND MOTHER TOGETHER AT ANY TIME?

YES...................... 1 11-12/
NO....(SKIP TO Q.9)...... 0

	YES	NO	NOT OBSERVED	
2. (MOTHER/GUARDIAN) SPONTANEOUSLY SPOKE TO CHILD TWICE OR MORE (EXCLUDING SCOLDING).	1	0	2	13-14/
3. (MOTHER/GUARDIAN) RESPONDED VERBALLY TO CHILD'S SPEECH.	1	0	2	15-16/
4. (MOTHER/GUARDIAN) CARESSED, KISSED, OR HUGGED CHILD AT LEAST ONCE.	1	0	2	17-18/
5. (MOTHER/GUARDIAN) SLAPPED OR SPANKED CHILD AT LEAST ONCE. Recode 1 to 0 and 0 to 1	1	0	2	19-20/
6. (MOTHER/GUARDIAN) INTERFERED WITH CHILD'S ACTIONS OR RESTRICTED CHILD FROM EXPLORING MORE THAN 3 TIMES. Recode 1 to 0 and 0 to 1	1	0	2	21-22/
7. (MOTHER/GUARDIAN) PROVIDED TOYS OR INTERESTING ACTIVITIES FOR CHILD.	1	0	2	23-24/
8. (MOTHER/GUARDIAN) KEPT CHILD IN VIEW/COULD SEE CHILD/LOOKED AT (HIM/HER) OFTEN.	1	0	2	25-26/
9. CHILD'S PLAY ENVIRONMENT IS SAFE (NO POTENTIALLY DANGEROUS HEALTH OR STRUCTURAL HAZARDS WITHIN A TODDLER'S OR INFANT'S RANGE). Note: "2" recoded to -4 (E.G., FALLING PLASTER, PEELING PAINT, RODENTS, GLASS, POISONS AND CLEANING MATERIALS, FLAMES & HEAT, FRAYED ELECTRICAL WIRES).	1	0	2	27-28/

TIME ENDED: ☐☐ ☐☐ AM PM
HR 29-30/ MIN 31-32/ 33-34/

10. INTERVIEWER: SKIP TO CS-83.

PART B: CHILD 3 YRS - 5 YRS, 11 MOS

— DID YOU OBSERVE THIS CHILD AND MOTHER TOGETHER AT ANY TIME?

YES.................... 1 35-36/
NO...(SKIP TO Q.8).... 0

		YES	NO	NOT OBSERVED	
2.	(MOTHER/GUARDIAN) CONVERSED WITH CHILD AT LEAST TWICE (EXCLUDING SCOLDING OR SUSPICIOUS COMMENTS).	1	0	2	37-38/
3.	(MOTHER/GUARDIAN) ANSWERED CHILD'S QUESTIONS OR REQUESTS VERBALLY.	1	0	2	39-40/
4.	(MOTHER/GUARDIAN) CARESSED, KISSED, OR HUGGED CHILD AT LEAST ONCE.	1	0	2	41-42/
5.	(MOTHER/GUARDIAN) INTRODUCED INTERVIEWER TO CHILD BY NAME.	1	0	2	43-44/
6.	(MOTHER/GUARDIAN) PHYSICALLY RESTRICTED OR (SHOOK/ GRABBED) CHILD. Recode 1 to 0 and 0 to 1	1	0	2	45-46/
	(MOTHER/GUARDIAN) SLAPPED OR SPANKED CHILD AT LEAST ONCE. Recode 1 to 0 and 0 to 1	1	0	2	47-48/
8.	(MOTHER/GUARDIAN)'S VOICE CONVEYED POSITIVE FEELING ABOUT THIS CHILD.	1	0	2	49-50/
9.	CHILD'S PLAY ENVIRONMENT IS SAFE (NO POTENTIALLY DANGEROUS STRUCTURAL OR HEALTH HAZARDS WITHIN A PRESCHOOLER'S RANGE).	1	0	2	51-52/
10.	INTERIOR OF THE HOME IS DARK OR PERCEPTUALLY MONOTONOUS. Recode 1 to 0 and 0 to 1	1	0	2	53-54/
11.	ALL VISIBLE ROOMS OF HOUSE/APARTMENT ARE REASONABLY CLEAN.	1	0	2	55-56/
12.	ALL VISIBLE ROOMS OF HOUSE/APARTMENT ARE MINIMALLY CLUTTERED.	1	0	2	57-58/

Note: "2" recoded to -4

INTERVIEWER: SKIP TO CS-83.

TIME ENDED: ☐☐ ☐☐ AM PM

HR 59-60/ MIN 61-62/ 63-64/

PART C: CHILD 6 YRS AND OLDER

1. DID YOU OBSERVE THIS CHILD AND MOTHER TOGETHER AT ANY TIME?

YES.................... 1 11-12/
NO...(SKIP TO Q.6).... 0

		YES	NO	NOT OBSERVED	
2.	(MOTHER/GUARDIAN) ENCOURAGED CHILD TO CONTRIBUTE TO THE CONVERSATION.	1	0	2	13-14
3.	(MOTHER/GUARDIAN) ANSWERED CHILD'S QUESTIONS OR REQUESTS VERBALLY.	1	0	2	15-16
4.	(MOTHER/GUARDIAN) CONVERSED WITH CHILD EXCLUDING SCOLDING OR SUSPICIOUS COMMENTS.	1	0	2	17-18
5.	(MOTHER/GUARDIAN), INTRODUCED INTERVIEWER TO CHILD BY NAME.	1	0	2	19-20
6.	(MOTHER/GUARDIAN)'S VOICE CONVEYED POSITIVE FEELING ABOUT THIS CHILD.	1	0	2	21-22/
7.	INTERIOR OF THE HOME IS DARK OR PERCEPTUALLY MONOTONOUS. Recode 1 to 0 and 0 to 1	1	0	2	23-24/
8.	ALL VISIBLE ROOMS OF THE HOUSE/APARTMENT ARE REASONABLY CLEAN.	1	0	2	25-26/
9.	ALL VISIBLE ROOMS OF THE HOUSE/APARTMENT ARE MINIMALLY CLUTTERED.	1	0	2	27-28/
10.	BUILDING HAS NO POTENTIALLY DANGEROUS STRUCTURAL OR HEALTH HAZARDS WITHIN A SCHOOL-AGED CHILD'S RANGE. (E.G. FALLING PLASTER, PEELING PAINT, RODENTS, GLASS, POISONS AND CLEANING MATERIALS, FLAMES AND HEAT, FRAYED ELECTRICAL WIRES).	1	0	2	29-30/

12

TIME ENDED: ☐☐ HR 31-32/ ☐☐ MIN 33-34/ AM PM 35-36/

561

INTERVIEWER: GO TO CS-83. Note: "2" recoded to "-4"

Appendix C

MOTOR AND SOCIAL DEVELOPMENT

RAW SCORE - NORMED SCORE

LOOKUP TABLES

Appendix C. Motor & Social Development Assessment: Raw Scores, Percentile Scores, and Standard Scores by Age and Sex of Child

CHILD AGE IN MONTHS	RAW SCORE	BOYS		GIRLS		ALL CHILDREN	
		PERCENTILE SCORE	STANDARD SCORE	PERCENTILE SCORE	STANDARD SCORE	PERCENTILE SCORE	STANDARD SCORE
0-3	0	14	67	9	65	12	66
0-3	1	35	73	33	72	35	73
0-3	2	49	75	57	76	53	76
0-3	3	60	77	82	79	70	78
0-3	4	90	80	118	82	103	81
0-3	5	155	85	179	86	166	85
0-3	6	223	89	267	91	243	90
0-3	7	277	91	346	94	310	93
0-3	8	348	94	431	97	386	96
0-3	9	440	98	558	102	496	100
0-3	10	527	101	667	106	593	104
0-3	11	595	104	755	110	670	107
0-3	12	699	108	852	116	771	111
0-3	13	827	114	925	122	873	117
0-3	14	916	121	961	126	937	123
0-3	15	975	130	985	133	980	131
4-6	0	0	0	0	0	0	0
4-6	1	5	61	0	0	3	58
4-6	2	9	65	0	0	5	61
4-6	3	14	67	5	61	10	65
4-6	4	38	73	46	75	42	74
4-6	5	142	84	127	83	134	83
4-6	6	335	94	228	89	283	91
4-6	7	528	101	389	96	461	99
4-6	8	679	107	576	103	629	105
4-6	9	797	112	708	108	753	110
4-6	10	873	117	824	114	849	115
4-6	11	924	122	909	120	918	121
4-6	12	967	128	944	124	955	126
4-6	13	985	133	970	128	979	130
4-6	14	991	135	985	133	988	134
4-6	15	996	139	995	139	995	139

Appendix C.
Page Two

CHILD AGE IN MONTHS	RAW SCORE	BOYS		GIRLS		ALL CHILDREN	
		PERCENTILE SCORE	STANDARD SCORE	PERCENTILE SCORE	STANDARD SCORE	PERCENTILE SCORE	STANDARD SCORE
7-9	0	5	61	0	0	3	58
7-9	1	9	65	9	65	10	65
7-9	2	9	65	18	69	14	67
7-9	3	9	65	27	71	19	69
7-9	4	28	71	41	74	35	73
7-9	5	51	75	59	76	55	76
7-9	6	84	79	104	81	94	80
7-9	7	134	83	171	86	153	85
7-9	8	245	90	252	90	249	90
7-9	9	356	94	365	95	361	95
7-9	10	440	98	477	99	459	98
7-9	11	584	103	609	104	596	104
7-9	12	718	109	744	110	730	109
7-9	13	820	114	838	115	829	114
7-9	14	917	121	924	121	921	121
7-9	15	982	131	982	131	982	131
10-12	0	0	0	0	0	0	0
10-12	1	3	60	4	60	3	60
10-12	2	17	68	8	64	13	66
10-12	3	33	72	8	64	22	70
10-12	4	53	76	12	66	35	73
10-12	5	76	79	28	71	55	76
10-12	6	113	82	62	77	90	80
10-12	7	166	85	102	81	137	84
10-12	8	235	89	163	85	203	88
10-12	9	354	94	264	91	315	93
10-12	10	493	100	390	96	447	98
10-12	11	609	104	553	102	584	103
10-12	12	722	109	715	109	719	109
10-12	13	818	114	829	114	823	114
10-12	14	911	120	923	121	916	121
10-12	15	984	132	984	132	984	132
13-15	0	4	60	0	0	2	57

Appendix C.
Page Three

CHILD AGE IN MONTHS	RAW SCORE	BOYS		GIRLS		ALL CHILDREN	
		PERCENTILE SCORE	STANDARD SCORE	PERCENTILE SCORE	STANDARD SCORE	PERCENTILE SCORE	STANDARD SCORE
13-15	1	8	64	0	0	4	60
13-15	2	8	64	0	0	4	60
13-15	3	21	69	9	65	15	67
13-15	4	42	74	23	70	33	72
13-15	5	63	77	42	74	52	76
13-15	6	91	80	87	80	89	80
13-15	7	136	84	147	84	142	84
13-15	8	207	88	206	88	207	88
13-15	9	302	92	294	92	298	92
13-15	10	434	97	404	96	420	97
13-15	11	587	103	551	102	570	103
13-15	12	727	109	711	108	720	109
13-15	13	868	117	844	115	857	116
13-15	14	959	126	950	125	954	125
13-15	15	988	134	996	139	992	136
16-18	0	0	0	0	0	0	0
16-18	1	0	0	0	0	0	0
16-18	2	9	65	0	0	5	61
16-18	3	36	73	0	0	18	68
16-18	4	59	76	0	0	28	71
16-18	5	77	79	0	0	37	73
16-18	6	116	82	29	71	71	78
16-18	7	201	87	94	80	145	84
16-18	8	344	94	195	87	266	91
16-18	9	541	102	415	97	474	99
16-18	10	742	110	659	106	699	108
16-18	11	879	118	809	113	843	115
16-18	12	947	124	894	119	920	121
16-18	13	978	130	940	123	957	126
16-18	14	991	135	976	130	983	132
16-18	15	996	139	996	140	996	139
19-21	0	0	0	0	0	0	0
19-21	1	4	60	0	0	2	57

Appendix C.
Page Four

CHILD AGE IN MONTHS	RAW SCORE	BOYS		GIRLS		ALL CHILDREN	
		PERCENTILE SCORE	STANDARD SCORE	PERCENTILE SCORE	STANDARD SCORE	PERCENTILE SCORE	STANDARD SCORE
19-21	2	8	64	0	0	4	60
19-21	3	8	64	0	0	4	60
19-21	4	41	74	0	0	21	69
19-21	5	107	81	17	68	63	77
19-21	6	223	89	120	82	174	86
19-21	7	418	97	298	92	359	95
19-21	8	608	104	496	100	553	102
19-21	9	739	110	655	106	699	108
19-21	10	826	114	772	111	799	113
19-21	11	897	119	879	118	888	118
19-21	12	951	125	935	123	943	124
19-21	13	971	128	957	126	965	127
19-21	14	984	132	974	129	979	130
19-21	15	996	140	992	136	994	137
22-24	0	16	68	14	67	15	67
22-24	1	80	79	47	75	65	77
22-24	2	187	87	135	83	164	85
22-24	3	318	93	286	92	302	92
22-24	4	425	97	397	96	413	97
22-24	5	516	101	491	100	504	100
22-24	6	639	105	579	103	612	104
22-24	7	765	111	663	106	719	109
22-24	8	857	116	776	111	820	114
22-24	9	921	121	860	116	893	119
22-24	10	964	127	907	120	938	123
22-24	11	984	132	935	123	962	127
22-24	12	996	140	968	128	983	132
22-24	13	999	146	991	135	996	140
22-24	14	999	146	991	135	996	140
22-24	15	999	146	996	139	998	143
25-27	0	14	67	5	61	9	65
25-27	1	45	74	19	69	32	72
25-27	2	93	80	57	76	76	78

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CHILD AGE IN MONTHS	RAW SCORE	BOYS		GIRLS		ALL CHILDREN	
		PERCENTILE SCORE	STANDARD SCORE	PERCENTILE SCORE	STANDARD SCORE	PERCENTILE SCORE	STANDARD SCORE
25-27	3	177	86	118	82	149	84
25-27	4	257	90	189	87	224	89
25-27	5	319	93	236	89	279	91
25-27	6	429	97	292	92	363	95
25-27	7	588	103	392	96	493	100
25-27	8	713	108	542	102	631	105
25-27	9	779	112	685	107	733	109
25-27	10	845	115	759	111	804	113
25-27	11	912	120	835	115	874	117
25-27	12	956	126	910	120	934	123
25-27	13	982	131	953	125	968	128
25-27	14	991	135	981	131	986	133
25-27	15	996	139	999	146	998	142
28-30	0	12	66	0	0	6	62
28-30	1	30	72	0	0	15	67
28-30	2	54	76	12	66	33	72
28-30	3	90	80	35	73	62	77
28-30	4	126	83	63	77	94	80
28-30	5	169	86	92	80	130	83
28-30	6	223	89	120	82	171	86
28-30	7	301	92	161	85	229	89
28-30	8	385	96	224	89	303	92
28-30	9	507	100	322	93	412	97
28-30	10	699	108	465	99	579	103
28-30	11	831	114	644	106	735	109
28-30	12	885	118	788	112	835	115
28-30	13	952	125	891	118	920	121
28-30	14	994	138	966	127	980	131
28-30	15	999	146	995	138	997	141
31-34	0	0	0	0	0	0	0
31-34	1	4	60	18	69	11	66
31-34	2	16	68	40	74	28	71
31-34	3	27	71	44	74	36	73

CHILD AGE IN MONTHS	RAW SCORE	BOYS		GIRLS		ALL CHILDREN	
		PERCENTILE SCORE	STANDARD SCORE	PERCENTILE SCORE	STANDARD SCORE	PERCENTILE SCORE	STANDARD SCORE
31-34	4	39	73	44	74	41	74
31-34	5	62	77	48	75	55	76
31-34	6	95	80	59	76	76	79
31-34	7	131	83	81	79	105	81
31-34	8	191	87	124	83	157	85
31-34	9	275	91	193	87	233	89
31-34	10	355	94	289	92	321	93
31-34	11	504	100	408	97	455	98
31-34	12	684	107	562	102	621	105
31-34	13	817	114	734	109	774	111
31-34	14	920	121	888	118	903	119
31-34	15	981	131	978	130	980	131
35-38	0	0	0	4	60	2	57
35-38	1	0	0	8	64	4	60
35-38	2	0	0	12	66	6	62
35-38	3	0	0	17	68	7	63
35-38	4	3	60	17	68	9	65
35-38	5	10	65	17	68	13	67
35-38	6	21	69	17	68	19	69
35-38	7	44	74	17	68	32	72
35-38	8	71	78	30	72	52	76
35-38	9	105	81	71	78	89	80
35-38	10	182	86	117	82	154	85
35-38	11	307	92	175	86	248	90
35-38	12	459	98	267	91	373	95
35-38	13	649	106	430	97	550	102
35-38	14	845	115	667	106	765	111
35-38	15	966	127	896	119	935	123
39-42	0	0	0	0	0	0	0
39-42	1	5	61	0	0	2	57
39-42	2	14	67	0	0	6	62
39-42	3	23	70	0	0	10	65
39-42	4	32	72	0	0	15	67

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CHILD AGE IN MONTHS	RAW SCORE	BOYS		GIRLS		ALL CHILDREN	
		PERCENTILE SCORE	STANDARD SCORE	PERCENTILE SCORE	STANDARD SCORE	PERCENTILE SCORE	STANDARD SCORE
39-42	5	41	74	0	0	19	69
39-42	6	45	75	0	0	21	69
39-42	7	45	75	8	64	25	71
39-42	8	45	75	20	69	31	72
39-42	9	59	76	31	72	44	74
39-42	10	99	81	66	77	81	79
39-42	11	180	86	120	82	148	84
39-42	12	297	92	213	88	253	90
39-42	13	482	99	396	96	436	98
39-42	14	712	108	640	105	673	107
39-42	15	910	120	884	118	896	119
43-47	0	0	0	0	0	0	0
43-47	1	0	0	0	0	0	0
43-47	2	3	59	0	0	2	55
43-47	3	6	62	0	0	3	59
43-47	4	6	62	0	0	3	59
43-47	5	9	65	0	0	5	61
43-47	6	13	67	3	60	8	64
43-47	7	16	68	7	63	12	66
43-47	8	32	72	14	67	23	70
43-47	9	54	76	27	71	40	74
43-47	10	73	78	53	76	63	77
43-47	11	117	82	85	79	101	81
43-47	12	195	87	126	83	160	85
43-47	13	318	93	224	89	272	91
43-47	14	594	104	448	98	522	101
43-47	15	896	119	800	113	849	115

Appendix D

BEHAVIOR PROBLEMS INDEX
RAW SCORE - NORMED SCORE
LOOKUP TABLES

APPENDIX D TABLES

Appendix D1. Behavior Problems Index - Anxious/Depressed Subscale: Raw, Percentile, and Standard Scores by Age and Sex of Child

Appendix D2. Behavior Problems Index - Antisocial Subscale: Raw, Percentile, and Standard Scores by Age, Sex, and School Experience of Child

Appendix D3. Behavior Problems Index - Dependent Subscale: Raw, Percentile, and Standard Scores by Age and Sex of Child

Appendix D4. Behavior Problems Index - Headstrong Subscale: Raw, Percentile, and Standard Scores by Age and Sex of Child

Appendix D5. Behavior Problems Index - Hyperactive Subscale: Raw, Percentile, and Standard Scores by Age and Sex of Child

Appendix D6. Behavior Problems Index - Peer Conflicts/Withdrawn Subscale: Raw, Percentile, and Standard Scores by Age and Sex of Child

Appendix D7. Behavior Problems Index - Total Raw, Percentile, and Standard Scores by Age, Sex, and School Experience of Child

Appendix D1. Behavioral Problems Index - Anxious/Depressed Subscale: Raw, Percentile, and Standard Scores by Age and Sex of Child

CHILD AGE	RAW SCORE	BOYS		GIRLS		TOTAL	
		PERCENTILE SCORE	STANDARD SCORE	PERCENTILE SCORE	STANDARD SCORE	PERCENTILE SCORE	STANDARD SCORE
4	0	210	88	194	87	202	87
4	1	562	102	545	102	554	102
4	2	791	112	799	113	795	112
4	3	923	121	932	122	927	122
4	4	980	131	982	131	982	131
4	5	996	139	982	131	998	142
5	0	181	86	167	86	174	86
5	1	499	100	490	100	494	100
5	2	735	109	750	110	743	110
5	3	882	118	893	119	888	118
5	4	955	125	953	125	954	125
5	5	990	135	987	133	989	134
6	0	178	86	164	85	171	86
6	1	475	99	477	99	476	99
6	2	711	108	712	108	711	108
6	3	871	117	859	116	865	117
6	4	948	124	943	124	946	124
6	5	990	135	982	131	985	133
7	0	165	85	206	88	185	87
7	1	479	99	533	101	506	100
7	2	722	109	739	110	730	109
7	3	857	116	868	117	863	116
7	4	929	122	944	124	936	123
7	5	980	131	988	134	984	132
8	0	170	86	167	85	169	86
8	1	475	99	480	99	478	99
8	2	695	108	713	108	704	108
8	3	840	115	854	116	847	115
8	4	931	122	938	123	935	123
8	5	981	131	983	132	982	131
9	0	191	87	199	87	195	87
9	1	489	100	502	100	495	100
9	2	693	108	704	108	699	108
9	3	842	115	852	116	847	115

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CHILD AGE	RAW SCORE	BOYS		GIRLS		TOTAL	
		PERCENTILE SCORE	STANDARD SCORE	PERCENTILE SCORE	STANDARD SCORE	PERCENTILE SCORE	STANDARD SCORE
9	4	924	121	935	123	930	122
9	5	979	131	984	132	981	131
10	0	173	86	172	86	173	86
10	1	470	99	475	99	473	99
10	2	690	107	683	107	686	107
10	3	842	115	825	114	833	114
10	4	931	122	928	122	929	122
10	5	983	132	983	132	983	132
11	0	175	86	178	86	177	86
11	1	477	99	473	99	475	99
11	2	691	107	670	107	681	107
11	3	827	114	830	114	828	114
11	4	922	121	940	123	930	122
11	5	985	132	985	133	985	132
12	0	196	87	194	87	195	87
12	1	516	101	517	101	516	101
12	2	710	108	729	109	720	109
12	3	826	114	860	116	843	115
12	4	917	121	942	124	930	122
12	5	981	131	990	135	985	133
13	0	197	87	172	86	185	87
13	1	516	101	478	99	498	100
13	2	715	108	699	108	707	108
13	3	840	115	842	115	841	115
13	4	922	121	926	122	924	121
13	5	978	130	978	130	978	130
14	0	223	89	183	86	204	88
14	1	567	103	499	100	534	101
14	2	763	111	700	108	733	109
14	3	878	117	823	114	852	116
14	4	944	124	913	120	929	122
14	5	984	132	974	129	979	131
15	0	231	89	190	87	212	88
15	1	596	104	502	100	551	102
15	2	785	112	708	108	748	110
15	3	876	117	835	115	856	116
15	4	947	124	912	120	930	122
15	5	991	135	973	129	982	131

Appendix D2. Behavioral Problems Index - Antisocial Subscale: Raw, Percentile, and Standard Scores by Age, Sex, and School Experience of Child

CHILD AGE	RAW SCORE	BOYS				GIRLS				TOTAL			
		EVER IN SCHOOL		NEVER IN SCHOOL		EVER IN SCHOOL		NEVER IN SCHOOL		EVER IN SCHOOL		NEVER IN SCHOOL	
		PERCENTILE	STANDARD	PERCENTILE	STANDARD	PERCENTILE	STANDARD	PERCENTILE	STANDARD	PERCENTILE	STANDARD	PERCENTILE	STANDARD
4	0	233	89	167	85	307	92	279	91	269	91	223	89
4	1	585	103	500	100	732	109	680	107	655	106	591	103
4	2	796	112	759	111	899	119	877	117	846	115	818	114
4	3	935	123	917	121	972	129	968	128	953	125	943	124
4	4	990	135	992	136	998	143	992	136	994	138	992	136
4	5	990	135			998	143			994	138		
4	6	990	135			998	143			994	138		
5	0	240	89	207	88	281	91	229	89	261	90	217	88
5	1	588	103	563	102	680	107	583	103	636	105	572	103
5	2	777	111	813	113	851	116	819	114	816	113	817	114
5	3	898	119	951	125	934	123	965	127	917	121	957	126
5	4	962	127	995	138	977	130	965	127	969	128	997	140
5	5	988	134			993	136			991	135		
5	6	996	140			998	143			997	141		
6	0	212	88			290	92			250	90		
6	1	548	102			676	107			611	104		
6	2	761	111			848	115			803	113		
6	3	885	118			945	124			913	120		
6	4	942	124			977	130			960	126		
6	5	972	129			994	138			983	132		
6	6	990	135			994	138			995	138		
7	0	221	88			293	92			256	90		
7	1	565	102			704	108			634	105		
7	2	756	110			870	117			811	113		
7	3	855	116			948	124			900	119		
7	4	923	121			988	134			955	125		
7	5	973	129			996	139			984	132		
7	6	994	138			999	145			996	140		
8	0	251	90			288	92			270	91		
8	1	601	104			684	107			643	105		
8	2	767	111			846	115			807	113		
8	3	890	118			940	123			916	121		
8	4	966	127			984	132			976	130		
8	5	988	134			995	138			992	136		
8	6	996	139			995	138			998	143		
9	0	254	90			318	93			286	92		
9	1	613	104			746	110			680	107		
9	2	788	112			897	119			843	115		
9	3	899	119			954	125			927	122		

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CHILD AGE	RAW SCORE	BOYS				GIRLS				TOTAL			
		EVER IN SCHOOL		NEVER IN SCHOOL		EVER IN SCHOOL		NEVER IN SCHOOL		EVER IN SCHOOL		NEVER IN SCHOOL	
		PERCENTILE	STANDARD	PERCENTILE	STANDARD	PERCENTILE	STANDARD	PERCENTILE	STANDARD	PERCENTILE	STANDARD	PERCENTILE	STANDARD
9	4	957	126			982	131			969	128		
9	5	984	132			996	139			990	135		
9	6	997	141			996	139			999	145		
10	0	257	90			339	94			299	92		
10	1	630	105			774	111			703	108		
10	2	804	113			901	119			853	116		
10	3	895	119			957	126			927	122		
10	4	948	124			988	134			968	128		
10	5	982	131			996	140			989	134		
10	6	999	145			999	146			999	146		
11	0	260	90			339	94			296	92		
11	1	625	105			763	111			689	107		
11	2	787	112			898	119			837	115		
11	3	881	118			964	127			918	121		
11	4	940	123			984	132			959	126		
11	5	978	130			994	138			985	133		
11	6	998	142			994	138			999	145		
12	0	282	91			338	94			311	93		
12	1	653	106			769	111			713	108		
12	2	799	113			912	120			858	116		
12	3	888	118			970	128			930	122		
12	4	943	124			987	133			966	127		
12	5	984	132			997	141			990	135		
13	0	268	91			335	94			299	92		
13	1	644	106			755	110			696	108		
13	2	804	113			884	118			841	115		
13	3	889	118			947	124			916	121		
13	4	951	125			983	132			966	127		
13	5	988	134			999	145			993	137		
14	0	287	92			324	93			305	92		
14	1	670	107			732	109			699	108		
14	2	825	114			867	117			844	115		
14	3	910	120			941	123			925	122		
14	4	960	126			973	129			966	127		
14	5	992	136			992	136			992	136		
15	0	313	93			336	94			324	93		
15	1	710	108			750	110			729	109		
15	2	833	114			870	117			850	116		
15	3	901	119			934	123			917	121		
15	4	955	125			972	129			963	127		
15	5	990	135			993	137			992	136		

Appendix D3. Behavioral Problems Index - Dependent Subscale: Raw, Percentile, and Standard Scores by Age and Sex of Child

CHILD AGE	RAW SCORE	BOYS		GIRLS		TOTAL	
		PERCENTILE	STANDARD	PERCENTILE	STANDARD	PERCENTILE	STANDARD
4	0	188	87	196	87	192	87
4	1	508	100	510	100	508	100
4	2	737	109	745	110	740	110
4	3	901	119	904	120	903	119
4	4	985	132	974	129	980	131
5	0	192	87	180	86	186	87
5	1	514	101	506	100	510	100
5	2	749	110	763	111	756	110
5	3	900	119	919	121	909	120
5	4	973	129	982	131	978	130
6	0	225	89	210	88	218	88
6	1	579	103	550	102	564	102
6	2	783	112	770	111	776	111
6	3	907	120	912	120	910	120
6	4	978	130	982	131	980	131
7	0	234	89	236	89	235	89
7	1	589	103	600	104	594	104
7	2	795	112	800	113	798	112
7	3	917	121	921	121	920	121
7	4	978	130	985	132	980	131
8	0	267	91	242	90	255	90
8	1	665	106	614	104	639	105
8	2	854	116	814	113	833	115
8	3	933	122	925	122	928	122
8	4	977	130	983	132	980	131
9	0	261	90	261	90	261	90
9	1	656	106	639	105	647	106
9	2	848	115	830	114	839	115
9	3	938	123	943	124	940	123
9	4	985	133	990	135	987	133
10	0	299	92	297	92	298	92
10	1	711	108	683	107	697	108
10	2	868	117	840	115	854	116
10	3	945	124	935	123	940	123
10	4	989	134	982	131	985	133
11	0	289	92	290	92	289	92
11	1	692	108	698	108	694	108
11	2	865	117	870	117	867	117
11	3	953	125	951	125	952	125
11	4	990	135	990	135	990	135

Appendix D4. Behavioral Problems Index - Headstrong Subscale: Raw, Percentile, and Standard Scores by Age and Sex of Child

CHILD AGE	RAW SCORE	BOYS		GIRLS		TOTAL	
		PERCENTILE	STANDARD	PERCENTILE	STANDARD	PERCENTILE	STANDARD
4	0	118	82	132	83	125	83
4	1	320	93	359	95	339	94
4	2	471	99	533	101	501	100
4	3	618	104	689	107	653	106
4	4	797	112	852	116	823	114
4	5	947	124	969	128	958	126
5	0	104	81	130	83	118	82
5	1	287	92	346	94	318	93
5	2	454	98	508	100	482	99
5	3	615	104	668	106	642	105
5	4	781	112	815	113	798	112
5	5	936	123	940	123	938	123
6	0	110	82	121	82	115	82
6	1	293	92	329	93	311	93
6	2	453	98	510	100	480	99
6	3	613	104	696	108	654	106
6	4	778	111	852	116	815	113
6	5	934	123	957	126	945	124
7	0	111	82	118	82	114	82
7	1	324	93	365	95	344	94
7	2	506	100	579	103	542	102
7	3	650	106	726	109	687	107
7	4	786	112	860	116	822	114
7	5	929	122	967	128	948	124
8	0	115	82	137	84	126	83
8	1	339	94	380	95	359	95
8	2	533	101	574	103	554	102
8	3	688	107	727	109	707	108
8	4	823	114	855	116	840	115
8	5	943	124	960	126	952	125
9	0	112	82	161	85	137	84
9	1	328	93	421	97	375	95
9	2	503	100	589	103	546	102
9	3	653	106	744	110	698	108
9	4	803	113	885	118	844	115
9	5	938	123	970	128	954	125
10	0	112	82	154	85	133	83

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CHILD AGE	RAW SCORE	BOYS		GIRLS		TOTAL	
		PERCENTILE	STANDARD	PERCENTILE	STANDARD	PERCENTILE	STANDARD
10	1	344	94	436	98	390	96
10	2	535	101	640	105	588	103
10	3	682	107	772	111	728	109
10	4	829	114	880	118	855	116
10	5	951	125	965	127	958	126
11	0	123	83	152	85	136	83
11	1	348	94	406	96	374	95
11	2	523	101	602	104	559	102
11	3	673	107	763	111	714	108
11	4	823	114	874	117	847	115
11	5	948	124	960	126	953	125
12	0	148	84	180	86	165	85
12	1	393	96	450	98	422	97
12	2	568	103	625	105	598	104
12	3	711	108	780	112	747	110
12	4	844	115	898	119	872	117
12	5	957	126	973	129	965	127
13	0	124	83	175	86	148	84
13	1	348	94	441	98	392	96
13	2	545	102	602	104	572	103
13	3	699	108	754	110	724	109
13	4	819	114	885	118	850	116
13	5	940	123	967	128	953	125
14	0	153	85	174	86	163	85
14	1	420	97	441	98	431	97
14	2	591	103	610	104	600	104
14	3	724	109	749	110	736	109
14	4	855	116	866	117	860	116
14	5	954	125	960	126	957	126
15	0	181	86	183	86	181	86
15	1	460	98	452	98	455	98
15	2	631	105	615	104	623	105
15	3	759	111	755	110	757	110
15	4	864	116	873	117	868	117
15	5	957	126	962	127	960	126

Appendix D5. Behavioral Problems Index - Hyperactive Subscale: Raw, Percentile, and Standard Scores by Age and Sex of Child

CHILD AGE	RAW SCORE	BOYS		GIRLS		TOTAL	
		PERCENTILE	STANDARD	PERCENTILE	STANDARD	PERCENTILE	STANDARD
4	0	177	86	192	87	135	87
4	1	455	98	513	100	484	99
4	2	651	106	740	110	694	108
4	3	833	115	884	118	859	116
4	4	958	126	960	126	959	126
4	5	997	141	994	137	995	139
5	0	154	85	190	87	172	86
5	1	407	96	503	100	456	98
5	2	609	104	709	108	660	106
5	3	809	113	843	115	827	114
5	4	938	123	943	124	940	123
5	5	984	132	996	139	990	135
6	0	156	85	212	88	183	86
6	1	421	97	533	101	476	99
6	2	618	104	733	109	674	107
6	3	790	112	872	117	830	114
6	4	919	121	953	125	935	123
6	5	981	131	993	136	987	133
7	0	126	83	209	88	167	85
7	1	366	95	549	102	455	98
7	2	583	103	745	110	663	106
7	3	775	111	873	117	823	114
7	4	902	119	953	125	927	122
7	5	970	128	986	133	978	130
8	0	145	84	198	87	172	86
8	1	393	96	527	101	461	99
8	2	583	103	722	109	653	106
8	3	759	111	843	115	801	113
8	4	904	120	940	123	922	121
8	5	980	131	990	135	985	133
9	0	151	85	204	88	178	86
9	1	413	97	509	100	461	99
9	2	598	104	709	108	654	106
9	3	756	110	861	116	808	113
9	4	902	119	943	124	922	121
9	5	984	132	984	132	984	132
10	0	160	85	216	88	189	87
10	1	421	97	553	102	488	100
10	2	608	104	740	110	675	107
10	3	782	112	868	117	826	114

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CHILD AGE	RAW SCORE	BOYS		GIRLS		TOTAL	
		PERCENTILE	STANDARD	PERCENTILE	STANDARD	PERCENTILE	STANDARD
10	4	912	120	951	125	932	122
10	5	978	130	987	133	982	131
11	0	160	85	230	89	192	87
11	1	423	97	570	103	490	100
11	2	622	105	757	110	684	107
11	3	782	112	883	118	828	114
11	4	890	118	947	124	916	121
11	5	968	128	980	131	974	129
12	0	181	86	245	90	214	88
12	1	455	98	585	103	523	101
12	2	624	105	768	111	699	108
12	3	789	112	900	119	847	115
12	4	913	120	969	128	942	124
12	5	973	129	997	141	985	133
13	0	190	87	248	90	217	88
13	1	472	99	608	104	537	101
13	2	649	106	789	112	715	109
13	3	795	112	893	119	841	115
13	4	901	119	956	126	927	122
13	5	972	129	990	135	980	131
14	0	180	86	253	90	215	88
14	1	472	99	611	104	539	101
14	2	673	107	771	111	720	109
14	3	819	114	871	117	845	115
14	4	918	121	939	123	928	122
14	5	979	130	981	131	980	131
15	0	209	88	266	91	237	89
15	1	525	101	627	105	575	103
15	2	713	108	767	111	738	110
15	3	837	115	855	116	846	115
15	4	923	121	928	122	926	122
15	5	982	131	979	130	980	131

Appendix D6. Behavioral Problems Index - Peer Conflicts/Withdrawn Subscale: Raw, Percentile, and Standard Scores by Age and Sex o Child

CHILD AGE	RAW SCORE	BOYS		GIRLS		TOTAL	
		PERCENTILE	STANDARD	PERCENTILE	STANDARD	PERCENTILE	STANDARD
4	0	420	97	424	97	422	97
4	1	901	119	908	120	904	120
4	2	979	130	984	132	981	131
4	3	997	141	984	132	999	145
5	0	427	97	425	97	427	97
5	1	911	120	898	119	905	120
5	2	981	131	973	129	977	130
5	3	997	141	973	129	999	145
6	0	409	97	429	97	419	97
6	1	879	118	909	120	894	119
6	2	969	128	979	130	973	129
6	3	999	145	999	145	999	145
7	0	408	97	417	97	412	97
7	1	879	118	896	119	887	118
7	2	966	127	977	130	971	128
7	3	994	138	997	141	996	139
8	0	400	96	403	96	402	96
8	1	859	116	860	116	860	116
8	2	946	124	955	125	950	125
8	3	987	133	997	141	992	136
9	0	388	96	415	97	402	96
9	1	838	115	890	118	864	116
9	2	941	123	971	128	956	126
9	3	991	135	997	141	994	138
10	0	403	96	405	96	404	96
10	1	858	116	870	117	864	116
10	2	948	124	959	126	954	125
10	3	994	137	994	138	994	138
11	0	407	96	411	97	409	97
11	1	867	117	877	117	872	117
11	2	950	125	957	126	953	125
11	3	990	135	991	135	990	135
12	0	393	96	432	97	413	97

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CHILD AGE	RAW SCORE	BOYS		GIRLS		TOTAL	
		PERCENTILE	STANDARD	PERCENTILE	STANDARD	PERCENTILE	STANDARD
12	1	849	115	912	120	882	118
12	2	946	124	977	130	962	127
12	3	989	134	997	141	993	137
13	0	414	97	429	97	421	97
13	1	878	117	900	119	889	118
13	2	956	126	965	127	960	126
13	3	992	136	994	137	993	136
14	0	418	97	429	97	423	97
14	1	884	118	909	120	896	119
14	2	953	125	972	129	962	127
14	3	986	133	992	136	989	134
15	0	421	97	427	97	424	97
15	1	893	119	907	120	900	119
15	2	960	126	971	128	966	127
15	3	988	134	992	136	990	135

Appendix D7. Behavioral Problems Index - Total Raw, Percentile, and Standard Scores by Age, Sex, and School Experience of Child

CHILD AGE	RAW SCORE	BOYS				GIRLS				TOTAL			
		EVER IN SCHOOL		NEVER IN SCHOOL		EVER IN SCHOOL		NEVER IN SCHOOL		EVER IN SCHOOL		NEVER IN SCHOOL	
		PERCENTILE	STANDARD	PERCENTILE	STANDARD	PERCENTILE	STANDARD	PERCENTILE	STANDARD	PERCENTILE	STANDARD	PERCENTILE	STANDARD
4	0	59	77	17	68	71	78	66	77	65	77	42	74
4	1	153	85	67	77	165	85	156	85	159	85	112	82
4	2	235	89	134	83	230	89	213	88	233	89	173	86
4	3	317	93	209	88	313	93	271	91	316	93	240	89
4	4	382	95	275	91	387	96	336	94	384	96	306	92
4	5	437	98	342	94	470	99	459	98	453	98	401	96
4	6	481	99	400	96	569	103	549	102	524	101	476	99
4	7	542	102	425	97	647	106	574	103	593	104	501	100
4	8	607	104	450	98	704	108	615	104	654	106	533	101
4	9	651	106	509	100	751	110	656	106	699	108	583	103
4	10	705	108	609	104	801	113	680	107	752	110	645	106
4	11	766	111	709	108	854	116	722	109	808	113	715	109
4	12	811	113	784	112	884	118	779	112	847	115	781	112
4	13	851	116	842	115	906	120	811	113	878	117	827	114
4	14	891	118	892	119	931	122	837	115	911	120	864	116
4	15	920	121	942	124	951	125	869	117	935	123	905	120
4	16	943	124	967	128	965	127	902	119	954	125	935	123
4	17	960	126	976	130	976	130	943	124	968	128	959	126
4	18	968	128	983	132	982	131	975	129	974	129	979	131
4	19	977	130	983	132	986	133	984	132	981	131	983	132
4	20	987	133	983	132	990	135	992	136	988	134	987	133
4	21	993	137	992	136	994	138	992	136	993	137	996	140
4	22	996	140	992	136	996	140	992	136	996	140	996	140
4	23	998	143	992	136	998	143	992	136	998	143	996	140
4	24	998	143	992	136	998	143	992	136	998	143	996	140
4	25	998	143	992	136	998	143	992	136	998	143	996	140
4	26	998	143	992	136	998	143	992	136	998	143	996	140
4	27	998	143			998	143			998	143		
4	28	998	143			998	143			998	143		
5	0	43	74	32	72	51	75	28	71	47	75	30	72
5	1	123	83	113	82	159	85	105	81	142	84	109	81
5	2	181	86	201	87	249	90	174	86	216	88	188	87
5	3	242	90	276	91	326	93	235	89	285	91	257	90
5	4	314	93	351	94	391	96	320	93	354	94	336	94
5	5	370	95	407	96	444	98	375	95	408	97	392	96

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CHILD AGE	RAW SCORE	BOYS				GIRLS				TOTAL			
		EVER IN SCHOOL		NEVER IN SCHOOL		EVER IN SCHOOL		NEVER IN SCHOOL		EVER IN SCHOOL		NEVER IN SCHOOL	
		PERCENTILE	STANDARD	PERCENTILE	STANDARD	PERCENTILE	STANDARD	PERCENTILE	STANDARD	PERCENTILE	STANDARD	PERCENTILE	STANDARD
5	6	426	97	438	98	516	101	438	98	473	99	438	98
5	7	498	100	475	99	585	103	528	101	543	102	500	100
5	8	561	102	525	101	644	106	590	103	604	104	556	102
5	9	616	104	588	103	691	107	646	106	655	106	615	104
5	10	684	107	675	107	733	109	702	108	709	108	687	107
5	11	747	110	750	110	773	111	750	110	761	111	751	110
5	12	790	112	794	112	816	114	792	112	803	113	793	112
5	13	833	114	826	114	855	116	840	115	844	115	832	114
5	14	869	117	851	116	878	117	889	118	873	117	868	117
5	15	895	119	876	117	899	119	917	121	897	119	895	119
5	16	920	121	895	119	926	122	938	123	923	121	915	121
5	17	942	124	925	122	951	125	958	126	947	124	940	123
5	18	959	126	957	126	964	127	979	131	962	127	968	128
5	19	973	129	976	130	975	129	993	137	974	129	984	132
5	20	981	131	988	134	984	132	993	137	982	131	993	137
5	21	986	133	995	138	989	135	993	137	988	134	997	140
5	22	990	135	995	138	993	137	993	137	992	136	997	140
5	23	996	140	995	138	997	140	993	137	997	140	997	140
5	24	996	140	995	138	997	140	993	137	997	140	997	140
5	25	996	140	995	138	997	140	993	137	997	140	997	140
5	26	996	140	995	138	997	140	993	137	997	140	997	140
5	27	996	140			997	140			997	140		
5	28	996	140			997	140			997	140		
6	0	43	74			53	76			48	75		
6	1	126	83			148	84			137	84		
6	2	193	87			222	89			207	88		
6	3	254	90			293	92			274	91		
6	4	323	93			381	95			351	94		
6	5	380	95			465	99			421	97		
6	6	436	98			528	101			482	99		
6	7	500	100			595	104			547	102		
6	8	555	102			650	106			602	104		
6	9	605	104			706	108			654	106		
6	10	652	106			764	111			707	108		
6	11	696	108			795	112			745	110		
6	12	758	110			822	114			788	112		

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CHILD AGE	RAW SCORE	BOYS				GIRLS				TOTAL			
		EVER IN SCHOOL		NEVER IN SCHOOL		EVER IN SCHOOL		NEVER IN SCHOOL		EVER IN SCHOOL		NEVER IN SCHOOL	
		PERCENTILE	STANDARD	PERCENTILE	STANDARD	PERCENTILE	STANDARD	PERCENTILE	STANDARD	PERCENTILE	STANDARD	PERCENTILE	STANDARD
6	13	818	114			852	116			835	115		
6	14	859	116			881	118			870	117		
6	15	890	118			913	120			902	119		
6	16	918	121			940	123			928	122		
6	17	943	124			954	125			949	124		
6	18	952	125			968	128			959	126		
6	19	960	126			975	129			968	128		
6	20	969	128			981	131			976	130		
6	21	975	129			988	134			981	131		
6	22	985	133			991	135			988	134		
6	23	994	138			997	141			996	139		
6	24	994	138			997	141			997	141		
6	25	996	139			997	141			998	143		
6	26	997	141			997	141			998	143		
6	27	999	145			997	141			999	146		
6	28	999	145			997	141			999	146		
7	0	41	74			65	77			53	76		
7	1	117	82			176	86			146	84		
7	2	192	87			267	91			229	89		
7	3	262	90			343	94			301	92		
7	4	330	93			420	97			374	95		
7	5	398	96			497	100			446	98		
7	6	461	99			561	102			510	100		
7	7	522	101			619	105			570	103		
7	8	588	103			669	107			627	105		
7	9	646	106			721	109			683	107		
7	10	688	107			770	111			728	109		
7	11	728	109			808	113			768	111		
7	12	764	111			846	115			805	113		
7	13	800	113			881	118			840	115		
7	14	833	114			909	120			870	117		
7	15	858	116			932	122			894	119		
7	16	882	118			955	125			917	121		
7	17	900	119			975	129			937	123		
7	18	917	121			980	131			948	124		
7	19	936	123			981	131			958	126		

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CHILD AGE	RAW SCORE	BOYS				GIRLS				TOTAL			
		EVER IN SCHOOL		NEVER IN SCHOOL		EVER IN SCHOOL		NEVER IN SCHOOL		EVER IN SCHOOL		NEVER IN SCHOOL	
		PERCENTILE	STANDARD	PERCENTILE	STANDARD	PERCENTILE	STANDARD	PERCENTILE	STANDARD	PERCENTILE	STANDARD	PERCENTILE	STANDARD
7	20	955	125			984	132			969	128		
7	21	967	128			987	133			977	130		
7	22	975	129			992	136			983	132		
7	23	980	131			997	141			988	134		
7	24	987	133			997	141			992	136		
7	25	990	135			999	145			994	137		
7	26	993	136			999	145			996	140		
7	27	996	139			999	145			998	143		
7	28	999	145			999	145			999	146		
8	0	49	75			60	77			54	76		
8	1	135	83			160	85			147	84		
8	2	213	88			245	90			229	89		
8	3	287	92			323	93			305	92		
8	4	357	94			403	96			380	95		
8	5	420	97			500	100			461	99		
8	6	483	99			567	103			526	101		
8	7	550	102			614	104			583	103		
8	8	614	104			663	106			639	105		
8	9	661	106			701	108			681	107		
8	10	701	108			740	110			720	109		
8	11	738	110			781	112			760	111		
8	12	779	112			823	114			801	113		
8	13	817	114			856	116			837	115		
8	14	846	115			878	117			862	116		
8	15	868	117			900	119			885	118		
8	16	901	119			927	122			913	120		
8	17	926	122			949	124			938	123		
8	18	936	123			967	128			952	125		
8	19	950	125			979	130			965	127		
8	20	962	127			989	134			976	130		
8	21	977	130			996	139			986	133		
8	22	988	134			999	145			993	137		
8	23	993	136			999	145			997	140		
8	24	996	139			999	145			998	142		
8	25	997	141			999	145			999	146		
8	26	999	145			999	145			1000	149		

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CHILD	RAW	BOYS				GIRLS				TOTAL			
AGE	SCORE	EVER IN SCHOOL		NEVER IN SCHOOL		EVER IN SCHOOL		NEVER IN SCHOOL		EVER IN SCHOOL		NEVER IN SCHOOL	
		PERCENTILE	STANDARD	PERCENTILE	STANDARD	PERCENTILE	STANDARD	PERCENTILE	STANDARD	PERCENTILE	STANDARD	PERCENTILE	STANDARD
8	27	999	145			999	145			1000	149		
8	28	999	145			999	145			1000	149		
9	0	46	75			96	80			71	78		
9	1	141	84			223	89			183	86		
9	2	230	89			284	91			257	90		
9	3	309	92			347	94			328	93		
9	4	382	95			427	97			405	96		
9	5	438	98			509	100			473	99		
9	6	477	99			579	103			529	101		
9	7	528	101			640	105			585	103		
9	8	588	103			688	107			638	105		
9	9	631	105			734	109			683	107		
9	10	674	107			777	111			726	109		
9	11	719	109			816	114			767	111		
9	12	772	111			850	116			810	113		
9	13	821	114			874	117			847	115		
9	14	846	115			900	119			873	117		
9	15	875	117			920	121			897	119		
9	16	903	119			933	122			919	121		
9	17	917	121			951	125			935	123		
9	18	932	122			972	129			951	125		
9	19	951	125			985	133			968	128		
9	20	969	128			991	135			980	131		
9	21	982	131			994	138			988	134		
9	22	987	133			997	141			992	136		
9	23	990	135			997	141			993	137		
9	24	993	136			997	141			995	139		
9	25	997	141			999	145			998	142		
9	26	997	141			999	145			998	142		
9	27	997	141			999	145			998	142		
9	28	997	141			999	145			998	142		
10	0	51	75			78	79			65	77		
10	1	147	84			206	88			177	86		
10	2	232	89			297	92			264	91		
10	3	309	92			383	96			346	94		
10	4	389	96			465	99			427	97		

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CHILD AGE	RAW SCORE	BOYS				GIRLS				TOTAL			
		EVER IN SCHOOL		NEVER IN SCHOOL		EVER IN SCHOOL		NEVER IN SCHOOL		EVER IN SCHOOL		NEVER IN SCHOOL	
		PERCENTILE	STANDARD	PERCENTILE	STANDARD	PERCENTILE	STANDARD	PERCENTILE	STANDARD	PERCENTILE	STANDARD	PERCENTILE	STANDARD
10	5	463	99			537	101			501	100		
10	6	524	101			602	104			563	102		
10	7	579	103			662	106			621	105		
10	8	628	105			720	109			674	107		
10	9	677	107			767	111			722	109		
10	10	721	109			799	113			760	111		
10	11	751	110			830	114			790	112		
10	12	783	112			862	116			823	114		
10	13	826	114			882	118			854	116		
10	14	861	116			897	119			879	118		
10	15	889	118			913	120			901	119		
10	16	907	120			932	122			919	121		
10	17	922	121			949	124			936	123		
10	18	933	122			960	126			948	124		
10	19	945	124			969	128			957	126		
10	20	961	126			978	130			970	128		
10	21	974	129			986	133			979	131		
10	22	982	131			991	135			987	133		
10	23	989	134			994	138			991	135		
10	24	993	136			996	140			995	139		
10	25	998	142			998	143			997	141		
10	26	998	142			999	146			1000	149		
10	27	998	142			999	146			1000	149		
10	28	998	142			999	146			1000	149		
11	0	50	75			76	78			62	77		
11	1	135	83			196	87			163	85		
11	2	209	88			289	92			246	90		
11	3	300	92			374	95			333	94		
11	4	387	96			452	98			417	97		
11	5	465	99			545	102			501	100		
11	6	534	101			615	104			571	103		
11	7	592	103			663	106			624	105		
11	8	639	105			700	108			667	106		
11	9	678	107			737	110			705	108		
11	10	717	109			784	112			747	110		
11	11	749	110			821	114			782	112		

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CHILD AGE	RAW SCORE	BOYS				GIRLS				TOTAL			
		EVER IN SCHOOL		NEVER IN SCHOOL		EVER IN SCHOOL		NEVER IN SCHOOL		EVER IN SCHOOL		NEVER IN SCHOOL	
		PERCENTILE	STANDARD	PERCENTILE	STANDARD	PERCENTILE	STANDARD	PERCENTILE	STANDARD	PERCENTILE	STANDARD	PERCENTILE	STANDARD
11	12	785	112			860	116			818	114		
11	13	817	114			896	119			853	116		
11	14	847	115			919	121			879	118		
11	15	875	117			938	123			904	120		
11	16	890	118			958	126			921	121		
11	17	904	120			966	127			933	122		
11	18	921	121			969	128			943	124		
11	19	945	124			973	129			957	126		
11	20	964	127			979	131			971	128		
11	21	973	129			984	132			978	130		
11	22	981	131			988	134			984	132		
11	23	987	133			993	136			988	134		
11	24	993	136			997	141			995	138		
11	25	997	140			997	141			998	142		
11	26	998	143			997	141			999	146		
11	27	1000	149			997	141			1000	149		
11	28	1000	149			997	141			1000	149		
12	0	79	79			99	81			89	80		
12	1	210	88			253	90			232	89		
12	2	295	92			355	94			326	93		
12	3	358	95			439	98			400	96		
12	4	431	97			518	101			477	99		
12	5	516	101			603	104			561	102		
12	6	586	103			687	107			638	105		
12	7	643	105			748	110			697	108		
12	8	690	107			787	112			740	110		
12	9	727	109			827	114			779	112		
12	10	764	111			874	117			821	114		
12	11	810	113			915	121			864	116		
12	12	844	115			938	123			893	119		
12	13	871	117			949	125			912	120		
12	14	900	119			960	126			931	122		
12	15	916	121			972	129			945	124		
12	16	928	122			983	132			957	126		
12	17	943	124			992	136			968	128		
12	18	959	126			995	139			978	130		

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CHILD AGE	RAW SCORE	BOYS				GIRLS				TOTAL			
		EVER IN SCHOOL		NEVER IN SCHOOL		EVER IN SCHOOL		NEVER IN SCHOOL		EVER IN SCHOOL		NEVER IN SCHOOL	
		PERCENTILE	STANDARD	PERCENTILE	STANDARD	PERCENTILE	STANDARD	PERCENTILE	STANDARD	PERCENTILE	STANDARD	PERCENTILE	STANDARD
12	19	975	129			998	142			987	133		
12	20	990	135			998	142			995	138		
12	21	997	140			998	142			998	142		
12	22	999	145			998	142			1000	149		
12	23	999	145			998	142			1000	149		
13	0	63	77			102	81			82	79		
13	1	181	86			252	90			215	88		
13	2	267	91			348	94			306	92		
13	3	361	95			426	97			392	96		
13	4	459	98			508	100			482	99		
13	5	523	101			601	104			559	102		
13	6	591	103			668	107			628	105		
13	7	655	106			730	109			690	107		
13	8	697	108			786	112			739	110		
13	9	739	110			826	114			780	112		
13	10	783	112			857	116			819	114		
13	11	814	113			883	118			847	115		
13	12	837	115			903	119			867	117		
13	13	859	116			918	121			888	118		
13	14	882	118			935	123			906	120		
13	15	902	119			949	124			924	121		
13	16	920	121			961	126			939	123		
13	17	946	124			971	128			958	126		
13	18	966	127			982	131			974	129		
13	19	979	131			990	135			984	132		
13	20	987	133			997	140			992	136		
13	21	994	137			999	145			997	140		
13	22	998	143			999	145			999	146		
13	23	999	146			999	145			1000	149		
14	0	90	80			100	81			94	80		
14	1	228	89			247	90			237	89		
14	2	324	93			351	94			337	94		
14	3	404	96			460	98			431	97		
14	4	474	99			533	101			502	100		
14	5	549	102			582	103			565	102		
14	6	620	105			644	106			631	105		

CHILD	RAW	BOYS				GIRLS				TOTAL			
		EVER IN SCHOOL		NEVER IN SCHOOL		EVER IN SCHOOL		NEVER IN SCHOOL		EVER IN SCHOOL		NEVER IN SCHOOL	
AGE	SCORE	PERCENTILE	STANDARD	PERCENTILE	STANDARD	PERCENTILE	STANDARD	PERCENTILE	STANDARD	PERCENTILE	STANDARD	PERCENTILE	STANDARD
14	7	676	107			715	108			694	108		
14	8	722	109			771	111			746	110		
14	9	773	111			809	113			791	112		
14	10	810	113			839	115			825	114		
14	11	840	115			865	117			852	116		
14	12	866	117			888	118			876	117		
14	13	891	118			904	120			897	119		
14	14	920	121			920	121			921	121		
14	15	941	123			939	123			939	123		
14	16	957	126			956	126			957	126		
14	17	969	128			968	128			968	128		
14	18	977	130			975	129			976	130		
14	19	982	131			985	133			984	132		
14	20	986	133			995	138			991	135		
14	21	989	134			999	146			994	137		
14	22	992	136			999	146			996	139		
14	23	997	140			999	146			999	145		
15	0	97	80			104	81			100	81		
15	1	248	90			274	91			260	90		
15	2	345	94			394	96			368	95		
15	3	443	98			483	99			463	99		
15	4	543	102			562	102			552	102		
15	5	618	104			630	105			624	105		
15	6	674	107			678	107			676	107		
15	7	720	109			717	109			719	109		
15	8	763	111			754	110			759	111		
15	9	801	113			794	112			798	112		
15	10	828	114			826	114			827	114		
15	11	853	116			853	116			853	116		
15	12	882	118			878	117			880	118		
15	13	904	120			899	119			901	119		
15	14	917	121			918	121			918	121		
15	15	934	123			933	122			934	123		
15	16	949	124			945	124			948	124		
15	17	967	127			959	126			963	127		
15	18	981	131			973	129			977	130		
15	19	985	133			981	131			983	132		
15	20	988	134			987	133			988	134		
15	21	994	137			993	136			994	137		
15	22	996	140			998	142			997	140		
15	23	999	146			998	142			1000	149		

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